

# **Hopkinton School District**

## ***K-12 Curriculum Guide for Parents***



### **Mission of the Hopkinton School District**

The Hopkinton School District's mission, in cooperation with family and community,  
is to ensure each student gains a love of learning  
with the knowledge, skills, sensitivity, self-reliance and character  
to be a contributing member of our global society  
by educating all students in a joyful, supportive and challenging environment.



# Contents

<b>Introduction .....</b>	<b>4</b>
<b>Language Arts .....</b>	<b>5</b>
<b>Mathematics .....</b>	<b>23</b>
<b>Science .....</b>	<b>37</b>
<b>Social Studies .....</b>	<b>47</b>
<b>World Languages .....</b>	<b>56</b>
<b>Physical Education &amp; Outreach Education .....</b>	<b>59</b>
<b>Technology &amp; Business.....</b>	<b>61</b>
<b>Fine &amp; Performing Arts.....</b>	<b>64</b>
<b>Pre-Engineering .....</b>	<b>70</b>
<b>Wood Technology .....</b>	<b>72</b>
<b>Family &amp; Consumer Sciences .....</b>	<b>74</b>

## **Introduction**

This overview of the Hopkinton School District's curriculum is intended to be a general guide for parents, teachers, and the community as to what is being taught in our schools. Teachers will find it helpful to see what is being taught to children both before and after the grade they teach. Parents may use this guide to have a better understanding of what their children will learn in a given grade or over the long term in one curriculum area. Community members will find that the overview explains, in brief, what the students in our schools are studying.

- Each curriculum area (*e.g.* "Language Arts" or "Social Studies") is presented in a given section so that readers can see the continuum of skills and concepts, understand how each year builds on previous years.
- It is also possible for parents and teachers to see a broad overview of an entire grade by looking at the skills and concepts taught in each subject area during that specific grade. To do this, use the Table of Contents to find the pages for the grade under each curriculum area.

Keep in mind that curriculum is reviewed regularly and revised as needed to reflect the changing world, and to incorporate best teaching practices and current research about how students learn.

### **Hopkinton School District Curriculum Council**

March 2005

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# Language Arts

## Kindergarten

### Reading

- Understand concepts about print
- Identify various nursery rhymes
- Identify various types of environmental print (Exit, Stop, Boys vs. Girls, food labels)
- Participate in various songs and chants
- Identify the main idea, beginning, middle, end and main characters in a story
- Identify a pattern which includes rhythm, rhyme & repetition
- Make personal connections to the text
- Retell a simple story in sequence
- Make reasonable predictions about a story
- Use rhyming words in a pattern
- Distinguish between a letter and a word
- Recognize individual letters presented in random order
- Identify his/her own name
- Be able to clap syllables
- Recognize some high frequency sight words
- Demonstrate sound/symbol correspondence
- Distinguish between a letter and a number
- Use teacher read alouds as a model for fluency
- Demonstrate enthusiasm for reading
- Independently spend time reading (or looking at) books for 10 minutes
- Regularly request opportunities to read and visit the school library
- Be attentive to read alouds
- Be able to make simple book choices independently

### Writing

- Demonstrate an enthusiasm for writing
- Have a proper pencil grasp
- Use a picture to represent a scene and words
- Ask for opportunities to dictate a story
- Write three to four times each week in 30 to 45 minute sessions

### Listening, Speaking, Viewing

- Distinguish between the sounds of each letter in the alphabet
- Identify rhyming sounds
- Attend to a speaker for 15 minutes
- Follow simple directions with 1-2 steps
- Maintain eye contact
- Demonstrate an understanding between fact and fiction
- Respond appropriately in a two way conversation
- Recognize basic non-verbal cues (such as hand movements)
- Practice eye contact during a conversation
- Evaluate a situation and exhibit appropriate behavior
- Speak clearly using appropriate volume for given situation
- Increase complexity in vocabulary usage
- Change intonation of voice while speaking

## First Grade

### Reading

- Identify and refer to the Title Page, Cover, Author, Illustrator
- Recognize that illustrators have certain characteristics
- Distinguish between fiction and non-fiction texts

- Recognize and become familiar with various forms of poetry (such as concrete, acrostic)
- Identify the setting (place) of a story
- Compare & contrast simple text
- Retell a story with increasing detail in sequence
- Predict story events and outcomes
- Preview a text to tap into prior knowledge
- Monitor comprehension by using the following cues:
  - Does it look right?
  - Does it sound right?
  - Does it make sense?
- Make text to self, text to text, and text to world connections
- Increase his/her bank of high frequency sight words
- Identify each syllable in a word
- Identify beginning, middle and end sounds in a word
- Recognize different letter combinations to make different sounds
- Use a variety of strategies to decode a word
- Recognize and distinguish between word families
- Read simple texts self-monitoring for fluency
- Use the listening center as a model for fluency
- Practice reading back their own writing
- Independently spend time reading for 15 minutes
- Attentively listen to others read a piece of literature for 15 minutes
- Share their feelings about particular books
- Identify books by personal interest

## Writing

- Write 20 minutes daily
- Use brainstorming and simple graphic organizers to organize thoughts before writing
- Refer to classroom word wall for simple editing
- Utilize conventions and ideas
- Compose 3-4 sentences on a topic
- Use informational writing, such as letters, lists, etc.
- Provide simple details to support writing
- Use prior knowledge to generate ideas
- Understand basic features of narrative writing- characters, setting, plot
- Begin to use leads and closings and include beginning, middle and end in writing
- Write a simple complete sentence
- Use knowledge of letter/sound relationships to write unknown words
- Edit spelling using word wall high frequency words
- Use simple punctuation (capitals, periods, and proper nouns)
- Recognize that one can write for different audiences

## Listening, Speaking, Viewing

- Identify and create rhyme and sound patterns
- Recognize beginning, middle, and end sounds in words
- Recognize differing rhythmic patterns
- Attend respectfully to a speaker for 20 minutes
- Follow two step directions
- Understand the purpose for listening

- Retell stories heard in logical sequence
- Identify important information from auditory materials
- Verbally identify the important information in a story or presentation
- Respond thoughtfully and respectfully to others
- Initiate, carry-on and contribute to meaningful conversations
- Uses complete sentences when expressing ideas
- Use appropriate volume and tone to a given situation
- Retell stories in logical order
- Ask for clarification when needed
- Recognize and interpret environmental visual images (e.g. traffic light, bathroom signs)
- Attentively view and audiovisual presentation for at least 20 minutes
- Interpret non-verbal cues and respond appropriately
- Make eye contact when speaking, listening, and/or viewing

## Second Grade

### Reading

- Use a table of contents
- Recognize and use captions
- Distinguish between biographies and autobiographies
- Explore various fairy tales/folk tales
- Read to identify story elements (problem, solution, main idea, setting, characters)
- Participate in discussions regarding character development

- Ask questions to further understanding of a text
- Make obvious inferences
- Summarize a text (orally) for overall understanding
- Use a variety of queuing systems to construct meaning
- Recognize high frequency words in a variety of contexts
- Use semantics (language sense and meaning) when working with new words
- Decode multi syllabic words through chunking and clustering of letter and sound patterns
- Use basic reference materials to gain knowledge of word meanings.
- Identify and understand the use of simple figurative language (similes, metaphors, idioms etc.)
- Develop word associations that include synonyms, antonyms, and homonyms
- Fluently read self-selected texts
- Practice reading back their own writing.
- Independently spend time reading for 20 minutes
- Use a variety of strategies when choosing a book (previewing, skimming, reading a few pages)
- Recommend specific books to others
- Read and follow written directions

### Writing

- Write for 20 minutes daily for a variety of purposes
- Use planning, note taking, brainstorming, or other strategies to organize their thoughts

before writing

- Prepare a written draft to frame and try out ideas
- Recognize that draft compositions may need to be revised for organization and content
- Use techniques such as reflection, conferencing and feedback to assist with revision and editing
- Use familiar forms of informational writing such as notes, letters, lists, and reports to relate, explain, and inform
- Produce different forms of creative and expository writing including stories, notes, lists, poems, and reports
- Utilize the six traits of effective writing: ideas, organization, voice, sentence fluency, word choice, and conventions
- Compose 7 to 8 sentences on a topic
- Establish and maintain a clear purpose for writing
- Provide details that support writing
- Use their knowledge and experiences to generate ideas for writing both on assigned topics and on topics they choose
- Understand that a draft composition may need additional information such as supporting details and topic development
- Understand and use basic features of narrative writing including characters, setting, and plot to tell a story
- Begin to use leads and closings in their writing
- Write compositions with a beginning, middle, and end
- Compose a complete sentence using subject and predicate
- Use a variety of simple and compound sentences
- Compose sentences including description, more complex vocabulary, and detail that expand upon the topic
- Recognize the terms for parts of speech: verbs, nouns, proper nouns, and adjectives
- Utilize synonyms and antonyms to vary word choice
- Capitalize all proper nouns and words at the beginning of sentences
- Use ending punctuation correctly (periods, question marks, exclamation points)
- Use knowledge of letter-sound relationships to write unknown words
- Identify their own spelling strengths and weaknesses and have a personal set of strategies for improving spelling (self-check, peer edit, dictionaries, spell check, teacher questioning)
- Edit writing for spelling, punctuation, grammar, usage, and capitalization
- Recognize that the presentation of written works including legible handwriting and properly formatted computer generated text is necessary for effective communication
- Understand that they can write for different audiences such as self, classmates, family
- Understand that different purposes require different formats and styles of writing

Listening, Speaking, Viewing

- Identify onset and alliteration
- Attend respectfully to a speaker for at least 25 minutes
- Follow two and three step directions

- Take simple notes on significant points while listening
- Clarify, retell, and explain ideas
- Draw conclusions and make comparisons between written, spoken, and AV sources
- Have the ability to speak effectively in small groups or one on one situations
- Speak clearly using appropriate sentence structure and vocabulary
- Use appropriate expression to the situation
- Recognize basic non-verbal cues and respond accordingly
- Use visualizations to help them understand a text
- Decode increasingly difficult multi-syllabic words
- Identify basic prefixes and suffixes and how they change the meaning of a word
- Use a variety of spelling strategies/rules to change a root word
- Fluently read self-selected texts with intonation
- Read back their own writing fluently
- Independently spend time reading for 25 minutes
- Read to learn information
- Read for pleasure
- Participate in group discussions of their reading

### **Third Grade**

#### Reading

- Identify, refer to and use an index, glossary and author's note
- Recognize tables, charts and graphs and their purposes
- Distinguish between fantasy and realistic fiction
- Understand the elements of a tall tale
- Utilize informational texts for research and to complete projects
- Identify the main idea, message and/or themes of a book
- Identify the setting of a story - both time and place
- Compare and contrast a variety of literary elements in different genres
- Distinguish fact from opinion in text
- Utilize comparison and contrast techniques for critical thinking
- Be able to write summaries of their readings
- Be able to identify the most important information in a text

#### Writing

- Write daily for 30 minutes for a variety of purposes
- Compose a page or more of text on a subject
- Use planning, note taking, brainstorming, or other strategies to organize their thoughts before writing
- Prepare a written final draft
- Recognize that draft compositions may need to be revised for organization and content, accuracy and clarity
- Use techniques such as reflection, conferencing, and feedback, to assist with revision and editing
- Use familiar forms of informational writing, such as notes, letters and lists, essays, and reports to relate, explain and inform
- Produce different forms of creative and

expository writing including stories, poems, and reports

- Be aware of the existence of the six traits of effective writing: ideas, organization, voice, sentence fluency, word choice, and conventions
- Establish and maintain a clear purpose for their writing
- Provide details that are pertinent, vivid, or explicit and that contribute to the depth of ideas and information.
- Use their knowledge and experiences to generate ideas for writing both on assigned topics and on topics they choose
- Understand that a draft composition may need additional information such as supporting details and topic development
- Understand and use basic features of narrative writing, including characters, setting, conflict and resolution, plot, and theme, to tell a story
- Start to use a variety of leads and closings for their pieces of writing
- Organize ideas from beginning to end with a clear and logical progression
- Use paragraphing to group ideas in written texts
- Compose a complete sentence with a subject and predicate
- Use a variety of simple and compound sentences
- Demonstrate an understanding that editing written works for the conventions of standard English, sentence structure (grammar), and wording helps improve communication
- Recognize the terms for parts of speech:

verbs, nouns, proper nouns and adjectives

- Use a thesaurus and dictionary to select varied and interesting vocabulary
- Use capitalization and punctuation (periods, question marks, exclamation marks, apostrophes, and commas) correctly
- Edit writing for spelling, punctuation, grammar, usage, and capitalization
- Employ available print and computer resources to assist with editing
- Recognize that the presentation of written works, including legible handwriting and properly-formatted, computer-generated text, is necessary for effective communication
- Write letters of the alphabet in manuscript and cursive using appropriate and efficient pencil grips.
- Understand that they can write for different audiences such as self, classmates, family, and school and community members.
- Understand that different purposes require different formats and styles of writing

Listening, Speaking, Viewing

- Distinguish between different rhythmic patterns
- Recognize alliteration
- Attend to a speaker for at least 30 minutes
- Listen attentively by looking at the speaker, asking questions, and paraphrasing what is said
- Listen for a purpose
- Distinguish between significant and insignificant information
- Understand and follow multi-step directions

- Contribute to formal and informal discussions
- Explain what has been learned
- Draw conclusions while comparing and contrasting
- Recognize basic non-verbal cues such as hand and eye movements and body gestures
- Speak clearly and expressively, using appropriate articulation, pronunciation, rate, volume, and intonation
- Use oral language, pronunciation, grammar, and vocabulary appropriate to the situation
- Demonstrate an ability to give brief oral presentations
- Ask and respond to questions from teachers and other group members
- Explain what has been learned

#### Fourth Grade

##### Reading

- Identify and refer to the publisher, copyright date, and place of publication use organizers of texts (tables, charts, graphs, bold text etc.)
- Understand the elements of a mystery
- Understand the elements of historical fiction
- Recognize different points of view
- Analyze the characteristics of different authors
- Identify external conflicts, foreshadowing of events, suspense and climax in text
- Explore figurative language to include personification and hyperbole
- Synthesize a piece of text for better understanding
- Retell a story in chronological order with

specific details

- Demonstrate understanding by stating their own position and opinion as related to the text
- Use context, sentence structure, and structural analysis for word identification and meaning
- Use auditory, visual, and phonics discrimination to determine word pronunciation
- Understand individual words and phrases may have multiple meanings
- Adjust reading speed based on type of text
- Read orally with appropriate inflection and intonation to make the story fluent
- Independently choose to read increasingly difficult text
- Independently spend time reading for 30 minutes
- Relate new information to what they already know

##### Writing

- Write for 35 minutes for a variety of purposes
- Compose two pages of text on a subject
- Use a variety of prewriting strategies to organize thoughts before writing
- Prepare a written or typed draft
- Recognize that draft compositions may need to be revised for organization, ideas, further details, and accuracy
- Use revision and editing techniques such as conferencing, feedback, and cut and pasting
- Use familiar forms of “environmental writing” such as notes, lists, and letters to relate, explain, inform, and organize

- Produce different forms of writing to include stories, plays, poems, reports and letters
  - Be aware of and use the Six Traits of writing: Ideas, Organization, Voice, Sentence Fluency, Word Choice, and Conventions
  - Understand that the generation of a piece of writing may require several drafts
  - Understand the difference between editing and revising and use each appropriately
  - Use available technology to produce several pieces of writing
  - Use questioning skills to offer and receive feedback when sharing writing
  - Establish and maintain a clear purpose for his / her writing
  - Provide details that are pertinent, vivid, or explicit and contribute to the depth of ideas and information
  - Use knowledge and experiences to generate ideas for writing both assigned and free choice topics
  - Understand how additional details and topics or character development may improve a piece of writing
  - Understand and use basic features of narrative writing to include: characters, setting, plot, conflict, theme, and climax to write a story
  - Use evidence to support ideas and points of view
  - Use strategies to “show, not tell” in writing
  - Use a variety of leads and closings appropriate to the piece of writing
  - Organize and present ideas from beginnings to ends with clear logical progressions
  - Use organizational patterns to convey a message
  - Use paragraphing to indicate changes in ideas
  - Present a paper using a consistent point of view
  - Use a variety of sentence beginnings in writing
  - Compose sentences of varying structure and length
  - Write simple and compound sentences
  - Recognize and use parts of speech: nouns, verbs, adjectives, adverbs, proper nouns
  - Use both a thesaurus and a dictionary for extended vocabulary
  - Use a variety of descriptive words
  - Use beginning and ending punctuation on all pieces of writing
  - Edit writing for spelling, grammar and punctuation
  - Use technology to enhance the presentation of a piece of writing (spell check, formatting, graphics)
  - Use quotation marks accurately when writing dialogue
  - Recognize his or her strengths
- Listening / Speaking / Viewing
- Appreciate and recognize the value of sound in expression
  - Identify onomatopoeia
  - Attend to a speaker for at least 35 minutes
  - Listen for a purpose
  - Recognize others’ attempts at persuasion
  - Speak in front of groups without rehearsal, when prompted.
  - Present accurate directions to others individually and in small groups.
  - Contribute to group discussions.

- Read rehearsed text in front of a group.
- Speak clearly and expressively, using appropriate articulation, pronunciation, rate, volume and intonation.
- Use oral language, pronunciation, grammar, and vocabulary appropriate to the situation.
- Demonstrate an ability to give brief oral presentations
- Ask and respond to questions from teachers and other group members.
- Explain what has been learned.
- Recognize basic non-verbal cues such as hand and eye movements and body gestures
- Infer emotions from a speaker's presentation

## Fifth Grade

### Reading

- Identify and understand ethical and other needs for bibliographies.
- Use style elements for skimming print and electronic text (i.e., boldface, Italics, font, etc.).
- Recognize the characteristics of science fiction.
- Use periodicals for informational and recreational reading.
- Identify multi-cultural influences and similarities in text.
- Recognize mood, internal conflict, turning point and subplots.
- Analyze and explain text using literary devices (i.e., personification, symbolism, idioms, turning points, sub-plots, etc.).
- Differentiate between non-fiction fact, opinion and point of view.
- Develop individual opinions through their non-fiction reading including essays.
- Understand the context of words both literally and figuratively.
- Draw on prior knowledge of word origins to derive meaning.
- Acknowledge and self-correct when their comprehension has broken down.
- Independently spend time reading for 35 minutes.
- Independently select appropriate print and electronic materials to seek information and/or to answer questions.

### Writing

- Write for 35 minutes daily for a variety of purposes
- Use planning, note taking, brainstorming, or other strategies to organize their thoughts before writing
- Prepare a written draft
- Recognize that draft compositions may need to be revised for organization, content, simplification and reduction of clutter
- Use techniques such as reflection, conferencing and feedback to assist with revision and editing
- Use familiar forms of informational writing such as notes, letters, lists, and reports to relate, explain, and inform
- Produce different forms of writing including creative, expository, narrative, persuasive, and practical writing
- Utilize the six traits of effective writing: ideas, organization, voice, sentence fluency, word choice, conventions
- Choose a form appropriate to the personal

or academic purpose of their writing

- Understand that composing a piece may require the generation of multiple drafts to reflect the author’s purpose and clarify thoughts
- Analyze the progress of their writing independently and in collaboration with others
- Demonstrate an understanding of the format and characteristics of various forms of writing including: friendly and business letters, reports, jokes, riddles, news articles, scripts, captions, video overlays, interviews, biography, songs, fiction, poetry, invitations, charts, and essays
- Construct, evaluate, and revise written, reference-based reports with documented sources
- Use available technology to write, revise, and publish some pieces of writing
- Use questioning skills to help others clarify their writing
- Share writing with others
- Establish and maintain a clear purpose for their writing
- Provide details that are pertinent, vivid, or explicit and that contribute to the depth of ideas and information
- Use their knowledge and experiences to generate ideas for writing both on assigned topics and on topics they choose
- Understand that a draft compositions may need additional information such as supporting details and topic development
- Understand and use basic features of narrative writing including characters, setting, conflict and resolution, theme and plot to tell a story
- Connect knowledge within and across disciplines
- Synthesize information to construct new concepts
- Write pieces with a strong sense of focus
- Use evidence to present, support, and defend their ideas and points of view
- Use strategies to “show not tell” in the writing
- Employ appropriate organizational patterns such as chronological order and compare and contrast
- Use paragraphing to indicate changes in central idea, setting, time, dialogue, or character
- Generate inviting leads and satisfying conclusions in pieces of writing
- Organize ideas from beginning to end with a clear and logical progression
- Create sentences which vary in structure and length throughout a piece of writing
- Compose sentences including description, more complex vocabulary, and detail that expand upon the topic
- Be aware of the elements of effective sentence fluency
- Write simple, compound and complex sentences
- Use figurative language such as similes, metaphors, personification, hyperbole, and alliteration to enhance their writing
- Use a variety of reference materials (such as thesaurus, dictionary) to provide memorable language in writing
- Use synonyms and antonyms to vary word choice
- Recognize labels for parts of speech within

their own writing: verbs, nouns, adjectives, adverbs, pronouns, personal pronouns, articles, interjections, prepositions and prepositional phrases

- Use vivid and effective words
- Use style and expressions that are appropriate to the purpose and audience
- Demonstrate an enthusiasm for the topic at hand
- Use available technology to write, revise and publish some pieces of writing
- Use capitalization correctly
- Use ending punctuation correctly (periods, question marks, exclamation points)
- Use other punctuation effectively in writing: commas, apostrophes, colons, semi-colons
- Use capitalization, punctuation, and paragraphing correctly when writing dialogue
- Identify the student's own spelling strengths and weaknesses and have a personal set of strategies for improving spelling (self-check, peer edit, dictionaries, spell check, teacher questioning)
- Edit writing for spelling, punctuation, grammar, usage, and capitalization

#### Listening / Speaking / Viewing

- Identify onset and alliteration
- Attend respectfully to a speaker or presentation for at least 40 minutes
- Follow three and four step directions
- Listen and produce using information technology
- Understand that language reflects a point of view
- Understand that language can reflect bias
- Identify non-standard English, colloquial-

isms, regional and ethnic dialect

- Use a variety of organizational structures to communicate such as:
  - guide words
  - ABC order
  - charts, problem and solution problems
  - beginning, middle and end
  - 5 Ws
  - cause and effect patterns
  - summaries
  - timelines
  - note-taking
  - outlining
  - highlighting
  - paraphrasing
  - flowcharts
  - Venn Diagrams
- Identify main idea and supporting details in written, spoken, audio-visual, and graphic messages
- Understand that language reflects a point of view
- Understand that language can reflect bias
- View and produce using information technology
- Use visualizations to increase comprehension and recall
- Use graphic features such as captions, graphs, headings, and drawings as a means of locating information and checking understanding
- Use a variety of organizational structures to communicate (see above)
- Identify main idea and supporting details in written, spoken, audio-visual, and graphic messages
- Speak effectively and meaningfully in small

groups, one on one and in front of an audience

- Contribute to verbal discussions and interactions using evidence to present, support, defend, and clarify ideas and points of view
- Ask appropriate questions to obtain information and clarify meaning
- Speak clearly using appropriate sentence structure and vocabulary
- Use context clues to determine meaning of spoken word
- Use volume, tone expression, hand gestures, and body movement in appropriate situations
- Make relevant contributions to conversations and discussions
- Ask and answer relevant questions
- Create and tell stories
- Participate in dramatic activities
- Understand that language reflects a point of view
- Understand that language can also reflect bias
- Use and understand a variety of types of figurative language including; analogies, personifications, hyperbole, and alliteration
- Use information technology tools to enhance spoken messages
- Organize and deliver oral presentations using audio visual aides
- Recognize basic non-verbal cues such as hard, body and eye movements
- Recognize and correct when others do not understand a message
- Make inferences

## Sixth Grade

### Reading

- Identify and understand the purpose of the preface, forward, epilogue, and appendix
- Use reviews as a reference for choosing books
- Identify and use informational print to include phone books, menus, brochures etc.
- Identify short stories and their characteristics
- Identify and describe the conflict within a story
- Compare & contrast author's style and story themes to other literature
- Independently set a purpose for reading
- Read & understand texts with longer time sequences
- Read and analyze texts with complex characters
- Identify the tone of a piece of literature
- Recognize when the meaning of a word is changed by non-standard English (slang, dialect, etc.)
- Recognize his/her own spelling strengths and weaknesses and have a set of strategies for improving spelling
- Read with appropriate speed, intonation, and expression while continually monitoring his/her reading for correctness and comprehension
- Independently spend time reading for 40 minutes
- Choose to read a variety of texts to include books, magazines, newspapers etc.

## Writing

- Write for 40 minutes daily for a variety of purposes
- Use planning, note taking, brainstorming, or other strategies to organize their thoughts before writing
- Prepare a written draft
- Recognize that draft compositions may need to be revised for organization, content, simplification and reduction of clutter
- Use techniques such as reflection, conferencing and feedback to assist with revision and editing
- Use familiar forms of informational writing such as notes, letters, lists, and reports to relate, explain, and inform
- Produce different forms of writing including creative, expository, narrative, persuasive, and practical writing
- Utilize the six traits of effective writing: ideas, organization, voice, sentence fluency, word choice, conventions
- Choose a form appropriate to the personal or academic purpose of their writing
- Understand that composing a piece may require the generation of multiple drafts to reflect the author's purpose and clarify thoughts
- Analyze the progress of their writing independently and in collaboration with others
- Demonstrate an understanding of the format and characteristics of various forms of writing including: friendly and business letters, reports, jokes, riddles, news articles, scripts, captions, video overlays, interviews, biography, songs, fiction, poetry, invitations, charts, and essays
- Construct, evaluate, and revise written, reference-based reports with documented sources
- Use available technology to write, revise, and publish some pieces of writing
- Use questioning skills to help others clarify their writing
- Share writing with others
- Establish and maintain a clear purpose for their writing
- Provide details that are pertinent, vivid, or explicit and that contribute to the depth of ideas and information
- Use their knowledge and experiences to generate ideas for writing both on assigned topics and on topics they choose
- Understand that a draft compositions may need additional information such as supporting details and topic development
- Understand and use basic features of narrative writing including characters, setting, conflict and resolution, theme and plot to tell a story
- Connect knowledge within and across disciplines
- Synthesize information to construct new concepts
- Write pieces with a strong sense of focus
- Use evidence to present, support, and defend their ideas and points of view
- Use strategies to “show not tell” in the writing
- Employ appropriate organizational patterns such as chronological order and compare and contrast

- Use paragraphing to indicate changes in central idea, setting, time, dialogue, or character
- Generate inviting leads and satisfying conclusions in pieces of writing
- Organize ideas from beginning to end with a clear and logical progression
- Create sentences which vary in structure and length throughout a piece of writing
- Compose sentences including description, more complex vocabulary, and detail that expand upon the topic
- Be aware of the elements of effective sentence fluency
- Write simple, compound and complex sentences
- Use figurative language such as similes, metaphors, personification, hyperbole, alliteration ... to enhance their writing
- Use a variety of reference materials (such as thesaurus, dictionary) to provide memorable language in writing
- Use synonyms and antonyms to vary word choice
- Recognize labels for parts of speech within their own writing: verbs, nouns, adjectives, adverbs, pronouns, personal pronouns, articles, interjections, prepositions and prepositional phrases
- Use vivid and effective words
- Use style and expressions that are appropriate to the purpose and audience
- Demonstrate an enthusiasm for the topic at hand
- Use available technology to write, revise and publish some pieces of writing
- Use capitalization correctly
- Use ending punctuation correctly (periods, question marks, exclamation points)
- Use other punctuation effectively in writing: commas, apostrophes, colons, semi-colons
- Use capitalization, punctuation, and paragraphing correctly when writing dialogue
- Identify the student's own spelling strengths and weaknesses and have a personal set of strategies for improving spelling (self-check, peer edit, dictionaries, spell check, teacher questioning)
- Edit writing for spelling, punctuation, grammar, usage, and capitalization

#### Listening / Speaking / Viewing

- Recognize and appreciate the value of sound in expression (alliteration, onomatopoeia, rhythmic patterns, characteristic sounds)
- Attend respectfully to a speaker or presenter for 45 minutes
- Follow four step directions
- Listen for and identify the point of view of a speaker
- Listen for sequences of ideas and meaning in spoken (and audio-visual) messages
- Synthesize main idea and details of a spoken or audio-visual message
- Listen and respond thoughtfully and respectfully to others
- Understand purpose for viewing (enjoyment, learning or critical study)
- Recognize and interpret non-verbal cues and visual images
- Use graphic features to quickly identify needed or important information (captions,

- graphs, headings)
- Analyze the presentation of a message to check for effectiveness
- Use technology to enhance written and spoken messages
- Give clear and accurate multi-step directions
- Engage in conversation with others of differing opinions using supporting data, citing supporting sources, and using reasoned judgment
- Recognize that different communication styles exist and understand how these differences affect communication
- Recognize the appropriateness of engaging in contrasting discussions (where are they, who is around, is everyone involved able to discuss)
- Use verbal and non-verbal cues to make effective social decisions
- Recognize and correct when others do not understand a message
- Make inferences through verbal and non-verbal cues

### Grade 7

*Reader's Handbook and Write Source 2000 are used as guides to reading, thinking and learning; classroom novels and independent reading choices are the primary reading texts.*

- Develop an understanding of the characteristics of different genres: poetry, drama, short stories, and novels
- Identify literary devices in literature
- Develop reading strategies consistent with the type of text
- Use writing journals to respond to literature

- Develop writing skills in the narrative, descriptive, and persuasive modes
- Develop editing skills for writing assignments
- Develop the knowledge of formal English conventions and usage
- Use a variety of resource materials, such as a dictionary and thesaurus
- Identify vocabulary words
- Develop discussion skills

### Grade 8

- Develop writing skills in narrative, descriptive, and persuasive modes
- Introduce and practice the essay as a formal format for writing
- Build on the knowledge and prescriptive use of English mechanics and usage
- Use a variety of sentence structures in writing
- Acquire skills used in developing and presenting an oral report
- Develop an appreciation for literature
- Identify literary devices in literature
- Recognize and analyze various genres of literature
- Increase vocabulary
- Improve upon discussion skills begun in Grade 7

### Grade 9

- Develop grammatical proficiency
- Increase knowledge of standard English usage
- Develop editing skills

- Begin to develop understanding of the elements of formal composition, e.g. the essay
- Recognize the similarities between literature and life
- Distinguish between the abstract and the concrete in literature and thinking skills.
- Enhance understanding of the essential elements of literature
- Develop appropriate language usage in oral communication
- Increase student vocabulary
- Recognize the various literary genres and their corresponding terminologies
- Establish proficiency in paragraph writing as the unit of composition

### **American Studies**

*This course combines American Literature and US History into a two block, 180-minute class.*

- Acquire facts about and vocabulary associated with the history of the United States
- Identify literary elements and define vocabulary in a work of literature
- Group various selections of literature by genre
- Explain major historical events and their impact on the development of the United States
- Apply knowledge of literary elements and genre to various works of literature to demonstrate how these contribute to making the work and effective piece of writing
- Utilize historical facts to defend specific political decisions made throughout United States history
- Compare and contrast various works of

literature across genre, time, and theme and analyze how writers may be influenced by personal, social, cultural and historical contexts

- Examine how controversial social, economic, political, moral, or religious issues have influenced the development of the United States over time
- Predict how historical context will influence political, social, economic, or moral decisions in our country's future
- Objectively evaluate a work of literature and defend a position using textual evidence
- Assess the historical context, validity, and effectiveness of historical decisions and policies and justify the assessment by reasoned judgment of the available facts
- Write in all modes of discourse: description, narration, exposition and persuasion, with a marked emphasis on persuasive writing

### **Composition 11**

- Learn strategies for development and support of ideas
- Learn methods of organization
- Learn methods of transition
- Learn to use sentence variety
- Learn to edit and revise
- Improve accuracy and precision with spelling, punctuation, and usage
- Complete all facets of writing a research based persuasive essay, to include note taking, proper documentation of sources, differentiation of the reliability of sources, essay structure
- Write in all modes of discourse: description,

narration, exposition and persuasion

## **Journalism**

- Learn how to gather, write and report the news
- Assemble strategies for organizing and reporting information
- Debate how information is or can be filtered
- Learn to interpret news for bias and effectiveness
- Strive to meet deadlines
- Edit news
- Manage technology for online publication

## **A.P. English – Literature and Composition**

- Develop a personal, critical approach to literature
- Develop the vocabulary and structures needed to support critical views in oral and written responses to literature
- Understand the larger framework of our literary tradition through wide and varied reading
- Develop the ability to consciously control elements of style and voice in writing
- Speak and write comfortably and effectively about literature

## **Modern American Literature**

- Discover the forces (for example, technological change, WW1, etc.) that forged the modern spirit
- Identify and appreciate the modern and contemporary traditions in American literature
- Explore recurrent themes in American lit-

erature via various genre

- Develop a critical approach to literature
- Develop effective discussion skills via key passage seminars
- Write clear and concise five paragraph essays with examples from literature
- Critically evaluate the purposes and influences of the media in our culture

## **Public Speaking**

- Improve ability as a writer to reach and hold an audience in a variety of speaking situations
- Present a written speech with self-confidence, enthusiasm, and poise
- Accept constructive criticism as a basis for assessment and growth
- Provide objective feedback to fellow classmates as well as through self-assessments
- Gain awareness of career opportunities in communication via guest speaker program

## **Science Fiction**

- Define science fiction in literature and film
- Analyze science fiction through textual evidence
- Identify key passages from science fiction
- Enhance skills for oral presentation or group discussion
- Learn a method for reviewing science fiction in film
- Improve listening and viewing skills
- Gain an understanding of individual, social, and political conflict as presented in science fiction

- Explain science as it presents itself in science fiction
- Connect dramatic conflicts to basic human conflicts

### **World Literature**

- Gain a deeper understanding of a variety of cultures other than our own
- Identify the universal elements in human experience through literature
- Examine the forces that have created our global culture (for example, colonialism, world war, technology)
- Develop the ability to evaluate literature in terms of character, plot, theme, and various other literary criteria
- Develop language and thinking skills
- Find the scheme and structure for a play
- Describe the characteristics of Shakespearean comedy, tragedy, romance, and history
- Use textual support in literary analysis
- Use research to support and broaden an understanding of a play
- Identify director's choices in the presentation of plays

### **Women's Literature**

- Examine the various ways women are presented and perceived in literature
- Explore how historical and social changes have affected these presentations and perceptions of women
- Recognize common treatments of women in literature and also discover how women, through both classic and modern works of literature, challenge these roles
- Use textual support in literary analysis
- Use research to support and broaden an understanding of a piece of fiction

### **Creative Writing**

- Acquire and apply a variety of techniques to generate and edit fictional writing in three genres
- Understand the writing process of professional writers, poets and playwrights
- Become familiar with both traditional and contemporary forms of fiction/nonfiction
- Evaluate fiction according to various criteria
- Share final works with fellow students, class members and possibly submit work for publication, contests, literary magazines, and the forensics tournament

### **Technical Writing**

- Use a computer for word processing, drawing, spreadsheets, and databases
- Write clearly and concisely in a technical style
- Apply technical writing skills to other disciplines
- Apply formats, strategies, and organizational schemes to reports or correspondence
- Write technical reports

### **Shakespeare**

- Identify a play's literary and dramatic elements
- Explain dramatic/thematic relationships among act and scene, plot and subplots

- Present oral reports that utilize technology
- Adjust content according to the knowledge, needs, and bias of an audience
- Prepare for a place in the work force

### The Short Story

- Examine the development of the short story as the natural descendant of the fairy tale, folk tale, and fable
- Identify literary elements and define vocabulary in a short story
- Apply knowledge of literary elements and characteristics of the short story genre to the reading of new stories
- Explore the various sub-categories of the short story genre: horror, mystery, historical fiction, war stories, and science fiction
- Compare and contrast various stories across the genre, across time, and across theme and analyze how writers may be influenced by personal, social, cultural, and historical contexts
- Participate in seminar discussions
- Write in a variety of modes in response to the reading: journal entries, key passage/responses, essays

## Mathematics

### Kindergarten

#### Number and Numeration

- Use numbers in play
- Use numbers when identifying attributes while matching, sorting and comparing
- Use numbers in conjunction with the language of position, direction, and opposites, such as 3 birds high - 2 birds low
- Count collections up to a comfortable limit
- Use numbers to solve problems
- Represent numbers in a variety of ways
- Match collections, number words, symbols
- Identify size of a collection by sight (up to 6)
- Compare and order numbers
- Explore ordinal positions, first, second, third, and last
- Read, say, and create stories involving cardinal and ordinal numbers

#### Common Fractions and Decimal Fractions

- Talk about fractions when they occur in discussions
- Use everyday language to describe real-world situations

#### Addition

- Use manipulatives to explore numbers, measurement and geometry concepts
- Increase a collection by adding one
- Describe combinations that make a number
- Read, retell and create stories involving number combinations
- Use everyday language to describe the actions of addition

## Subtraction

- Explore by building and taking apart constructions
- Use the term “more” and “less”
- Decrease a collection by taking one away
- Rearrange collections for example “take one from five and put it with three-there are still eight”
- Read, retell and create stories
- Use everyday language to describe the actions of addition

## Multiplication

- Explore the making of equal groups
- Read, retell and create stories

## Division

- Share and group objects
- Describe groups and number in each group
- Read, retell and create stories about sharing and/or grouping

## Time and Money

- Use every day language to describe events
- Sequence familiar events
- Identify parts of the day - morning, night
- Explore the duration of time, such as “What takes a short (long) time?”
- Use days of the week to describe activities
- Use pennies and nickels
- Exchange coins

## Problem Solving

*Problem solving is the focus of Growing with Mathematics. Every investigation encourages children to use their thinking and reasoning skills to resolve complex and open-ended problem solving skills.*

## Length, Weight and Capacity

- Use familiar language for attributes - short/long, tall/short, heavy/light, full/empty
- Use comparative language when telling stories
- Make direct comparisons
- Order three or more objects
- Solve everyday problems, such as “Who is taller than the radiator?”

## Area and Volume

- Build 3-D shapes
- Construct 2-D designs and patterns
- Discuss relationships between shapes
- Use squares, circles and triangles
- Explore through number and patterning activities

## Geometry

- Use the ideas of position and function
- Investigation of 3-D and 2-D objects through free play
- Describe likeness and difference of real-world and classroom shapes
- Make patterns with shapes
- Construct pictures with triangles, squares and circles
- Describe 2-D shapes using familiar language

## Graphs, Statistics, and Probability

- Use manipulatives to make graphs about personal data
- Help to build picture graphs
- Discuss information shown in a graph, such as ideas about “more” or “less”

## Algebra

- Find and describe patterns
- Copy and extend patterns
- Discuss relationships in patterns
- Explore the idea of equality in measurement and number

## First Grade

### Number and Numeration

- Match collections, number words and numerals
- Partition and group to analyze numbers,
- Explore operations and solve problems
- Use ordinal numbers to describe positions
- Count by ones, twos and fives
- Use tens and ones language to describe groups
- Match collections, number words and numerals
- Write 2-digit numbers in words and symbols
- Compare, order and sequence numbers to 20
- Use ordinal numbers
- Count by ones, fives and tens from any starting number
- Solve and create problems involving numbers

### Common Fractions and Decimal Fractions

- Investigate part to whole relationships
- Use everyday language of fractions describe real-world situations
- Describe fractions in everyday situations
- Find halves and fourths of shapes

### Addition

- Write facts to record real-world stories
- Relate the addition symbol to everyday situations

### ations

- Describe combinations that make a number
- Read, create and tell stories
- Explore fact strategies - count on 1, 2 or 3
- Explore fact strategies - using doubles and zero
- Read, create and retell stories that involve problem solving

### Subtraction

- Act out subtraction stories
- Investigate the relationship to addition
- Create and share stories involving take away
- Use subtraction symbol
- Investigate part-part-total idea
- Relate symbol to language and the real world
- Explore fact strategies - count back 1,2,3 and count on 1,2,3
- Read, retell, create and share stories involving take away, and missing addend, and comparison

### Number Sense

*The number sense activities are sequenced to help children to develop the power to think and reason in situations that require computation.*

- The exploration of number patterns
- The development of number relationships
- Comparing and sequencing whole numbers and decimals
- Using number in interesting and novel ways
- Computing mentally; and making computational estimates
- Integrating number with length, money

### Multiplication

- Describe everyday arrangements of equal groups
- Construct groups of equal size
- Investigate stories about equal groups

### Division

- Show equal groups by sharing collections
- Investigate sharing and grouping stories

### Time and Money

- Name days of the week on a calendar
- Describe the passage of time related to an event—for example, “recess is a short time”
- Count with pennies
- Use a dime
- Add money with problems using addition
- Tell time on the hour
- Estimate the passage of time
- Count with pennies, nickels and/or dimes
- Use coins in shopping situations
- Solve problems involving addition and subtraction of money

### Length, Weight, and Capacity

- Investigate ideas of equality
- Compare and combine to make equal amounts
- Investigate ideas of equality
- Use a pan balance
- Measure with non-standard units, such as body measures
- Compare lengths and amounts
- Use inch and centimeter
- Solve and create real world problems

### Area and Volume

- Rearrange shapes in puzzles
- Construct designs and patterns
- Cover surfaces with irregular and regular shapes
- Use area to show fractions

### Geometry

- Use familiar 2-D shapes
- Identify ovals, diamonds and rectangles
- Sort shapes and describe the sort
- Use familiar 3-D shapes
- Identify box shapes, can shapes and the cone
- Create patterns with 2-D shapes
- Describe position and direction

### Graphs, Statistics, and Probability

- Use numbers, sketches and picture graphs when recording and discussing information
- Use block graphs to introduce bar graphs

### Algebra

- Create, extend and describe patterns made from real-world and classroom materials
- Investigate ideas of equivalence, such as  $2+3$  is the same as  $1+4$  is the same as  $5$

## **Second Grade**

### Number and Numeration

- Estimate compare and sequence numbers to 100
- Analyze place value for 2-digit numbers
- Describe one hundred and hundreds in real-world and classroom situations
- Use 2-digit numbers in problem solving situations

- Make and describe groups in terms of hundreds, tens and ones
- Compare and order 3-digit numbers
- Construct simple number sequences

#### Common Fractions and Decimal Fractions

- Find halves and fourths of areas, lengths, groups, weights and capacities
- Use fraction language to describe everyday situations
- Use halves, thirds or fourths to describe parts of a whole
- Use fraction symbols when describing real-world situations and classroom models

#### Addition

- Use casts-count-ons
- Explore fact strategies-doubles, near doubles and near ten facts
- Relate to subtraction using fact families
- Explore adding 2-digit numbers
- Read, retell and create stories to reinforce problem solving
- Use facts-count-backs, count-ons, near doubles
- Relate all fact examples to subtraction
- Use 2 digit numbers in problem-solving situations
- Create and share stories to extend problem solving

#### Subtraction

- Use facts-count-backs and count-ons, near doubles
- Relate to addition using doubles, near doubles and near tens facts

- Explore subtracting 2-digit numbers
- Read, tell and create stories to reinforce problem solving
- Use 2-digit numbers in problem-solving situations
- Create and share stories to extend problem solving

#### Multiplication

- Read, retell and create stories
- Model equal groups and arrays
- Explore and use fact strategies-twos and fives
- Use sets and arrays for real-world problems
- Model “turnaround” idea
- Give factors in a multiplication situation
- Explore further fact strategies

#### Division

- Read and retell stories
- Create and share stories
- Use real-world situations and classroom material to investigate grouping and sharing

#### Time and Money

- Relate days, weeks and months
- Count hours and short intervals involving minutes
- Count five-minute intervals
- Tell the time past the hour
- Use coins in problem-solving situations involving addition and subtraction
- Use quarter and half dollar
- Exchange coins and one dollar bills to show equivalent amounts
- Use coins in problem-solving situations involving numeration and all operations

### Length Weight, and Capacity

- Use meter and foot as standard units
- Relate meters and centimeters
- Relate feet and inches
- Solve problems involving measurement units
- Use kilogram and pound as standard units
- Use liter pint and quart as standard units
- Solve problems involving length, weight and capacity

### Area and Volume

- Use 2-D shapes to cover
- Pack and compare 3-D shapes
- Construct 3-D shapes with cubes
- Tessellate regular and irregular shapes
- Relate covering with squares to multiplication
- Construct and cover 3-D shapes

### Geometry

- Use hexagon, pentagon and familiar plane shapes
- Use pyramids, rectangular prisms and familiar 3-D shapes
- Describe and compare faces of 3-D shapes
- Describe shapes in the environment
- Find and describe examples of symmetry in real world situations and classroom models
- Investigate the idea of perimeter
- Follows paths and gives directions
- Solve visual-thinking puzzles

### Graphs, Statistics and Probability

- Construct bar graphs by planning, collecting and organizing information
- Interpret charts and graphs

- Use charts and graphs in problem-solving situations
- States possibilities, list outcomes and makes predictions

### Algebra

- Create, extend and fill in patterns
- Use everyday language to describe relationships with patterns
- Describe relationships between operations, such as subtraction is the inverse of addition
- Informally use properties of operation, for example, 2 rows of eight is the same as eight rows of two

### Third Grade

#### Number and Numeration

- Explore the idea of 1000
- Estimate sequence and compare numbers to 1000
- Analyze place value for 3-digit numbers
- Use 3-digit numbers in problem-solving
- Estimate, compare and sequence numbers to 10,000
- Analyze place value for 4-digit numbers
- Investigate number patterns
- Explore and relate multiples, factors and prime numbers
- Use 4-digit numbers in problem-solving situations

#### Common Fractions and Decimal Fractions

- Explore different ways to represent the same fraction
- Use a variety of contexts to show fractions-area, length, volume and set

- Relate to sharing
- Investigate fractions greater than a whole
- Count by unit fractions
- Investigate decimal fractions

#### Addition and Subtraction

- Reinforce fact strategies
- Reinforce part-part-total to build the idea of inverse relationships
- Use all appropriate methods to compute-mental, calculator or paper and pencil
- Use a variety of strategies to make estimates
- Solve and create problems involving numbers to 1000
- Use standard paper and pencil algorithms as one alternative for computing 2-digit and 3-digit numbers
- Extend standard algorithms for computing 3-digit numbers
- Use materials to explore combining and separating fractions
- Investigate adding and subtracting tenths
- Solve and create problems involving numbers to 10,000

#### Multiplication

- Use sets, arrays and cross product models for real-world problems
- Use fact strategies-twos, threes, fours, fives, nines, zeros, ones to build-up fact knowledge
- Model “turnaround” idea
- Give factors in a multiplication situation
- Explore further fact strategies
- Model 2-digit and 3-digit numbers multiplied by 1-digit numbers

- Solve and create problems involving numbers to 100

#### Division

- Use stories to extend division concept
- Use division symbols
- Use materials to relate to multiplication and idea of missing factor
- Use fact strategies-twos and fives
- Investigate remainders
- Use fact families to solve problems
- Investigate division of 2-digit and 3-digit numbers by 1-digit numbers
- Solve and create problems

#### Time and Money

- Relate days, weeks, months and years
- Read time as minutes past the hour
- Calculate elapsed time in hours
- Make change for \$1
- Give equivalent amounts for \$5 and \$10
- Solve and create problems with money
- Describe times in terms of AM and PM
- Relate analog and digital times
- Calculate elapsed time in minutes and hours
- Read timelines expressed in hours
- Make change for \$5
- Solve and create problems with time and/or money

#### Length, Weight, and Capacity

- Use and relate inch, foot and yard
- Relate meters and centimeters
- Explore the idea of perimeter
- Compare containers to fractions of a liter

and a quart

- Use and relate kilograms and pounds
- Solve and create problems involving familiar measurement units

#### Area and Volume

- Use any shapes to cover surfaces
- Explain why squares are good for covering
- Use geoboards to investigate ways of counting squares
- Describe ways of counting squares that cover regions
- Investigate ways of counting cubes that fill space
- Relate area to arrays and multiplication
- Fill containers to compare amounts of space
- Relate volume to the idea of filling space

#### Fourth Grade

##### Number and Numeration

- Explore the idea of 10,000 and 100,000
- Estimate, compare and sequence numbers to 100,00
- Analyze place value for large numbers
- Extend study of factors, multiples and prime numbers
- Explore the idea of one million
- Estimate, compare and sequence numbers to 1,000,000
- Investigate number patterns
- Explore other number systems
- Explore common factors and common multiples

##### Common Fractions and Decimal Fractions

- Build fraction concepts by solving problems

- Compare and order fractions
- Relate mixed numbers and improper fractions
- Investigate equivalence
- Associate fractions with decimal notations
- Use common and decimal fractions when estimating
- Extend exploration of decimal fractions to thousandths

##### Addition and Subtraction

- Use appropriate methods to compute larger numbers-mental, calculator or paper and pencil
- Use estimation strategies
- Solve and create problems involving money, fractions and numbers to 100,000, to one million, fractions and decimals
- Use materials to add and subtract like fractions
- Add and subtract tenths and hundredths
- Explore adding and subtracting fractions with related denominators

##### Multiplication

- Review fact strategies
- Multiply 2-digit and 3-digit numbers by 1-digit numbers
- Investigate multiplying by tens
- Explore estimation strategies
- Use a variety of multiplication models to solve and create problems
- Use patterns to help in multiplying by hundreds and thousandths
- Use arrays to help multiply 2-digit numbers by 2-digit numbers

- Explore multiplication with decimal fractions
- Continue using estimation strategies
- Combine multiplication with other operations in everyday situations including using a calculator

#### Division

- Use the connection between multiplication and division to learn division facts
- Divide 2-digit or 3-digit numbers by 1-digit numbers, with and without remainders
- Express remainders as decimals
- Solve and create real-world problems
- Use appropriate methods to compute-mental, calculator or pencil and paper
- Explore estimations strategies
- Investigate patterns for dividing by 10
- Solve and create real-world problems

#### Time and Money

- Relate minutes, hours, days, weeks, months and years
- Estimate and calculate elapsed time-hours and minutes
- Read simple timetables
- Make change for \$20
- Give equivalent amounts in dollars and cents
- Solve and create problems with money involving addition and subtraction
- Solve problems based on the calendar
- Explore the second as a unit of time
- Plan and use simple budgets
- Solve and create problems with money involving all operations

#### Length, Weight, and Capacity

- Revisit kilometer and mile
- Explore millimeter
- Do simple conversions between units in the same measured system
- Do simple conversions between units in the same measurement system
- Find perimeter of polygons
- Use fractions in measurements

#### Area and Volume

- Use 2-D shapes to cover
- Pack and compare 3-D shapes
- Construct 3-D shapes with cubes
- Tessellate regular and irregular shapes
- Relate covering with squares to multiplication
- Construct and cover 3-D shapes

#### Geometry

- Use hexagon, pentagon and familiar plane shapes
- Use pyramids, rectangular prisms and familiar 3-D shapes
- Describe and compare faces of 3-D shapes
- Describe shapes in the environment
- Find and describe examples of symmetry in real world situations and classroom models
- Investigate the idea of perimeter
- Follows paths and gives directions
- Solve visual-thinking puzzles

#### Graphs, Statistics, and Probability

- Construct bar graphs by planning, collecting and organizing information
- Interpret charts and graphs

- Use charts and graphs in problem-solving situations
- State possibilities, list outcomes and make predictions

### Algebra

- Create, extend and fill in patterns
- Use everyday language to describe relationships with patterns
- Describe relationships between operations, such as subtraction is the inverse of addition
- Informally use properties of operation, for example, 2 rows of eight is the same as eight rows of two

### Fifth Grade

#### Number and Numeration

- Estimate, compare and sequence numbers greater than 1,000,00
- Use number models with the metric system
- Explore other number systems
- Explore highest common factors and greatest common divisor
- Explore other number systems
- Use large numbers in problem-solving situations
- Investigate special types of numbers-prime, triangular
- Explore number sequences-Fibonacci

#### Common Fractions and Decimal Fractions

- Find and use equivalent fractions
- Find fractions of fractions in real-world and concrete situations
- Share fractional amounts
- Investigate fraction patterns

- Compare and sequence decimal fractions
- Relate common fractions to decimals through patterning
- Convert familiar fractions to decimals
- Relate fractions and decimals to percent
- Estimate, use and compare fractions in everyday situations

#### Addition

- Use appropriate methods-mental, calculator or paper and pencil-to solve and create problems involving fractions, decimals and whole numbers
- Extend and build estimation strategies
- Add and subtract fractions with related denominators
- Explore addition and subtraction with unrelated denominators

#### Multiplication

- Multiply 2-digit number by 2-digit numbers
- Multiply decimals by decimals
- Explore multiplication patterns with fractions
- Multiply amounts involving fractions
- Estimate with whole numbers, decimals and fractions
- Use appropriate methods-mental, calculator or paper and pencil-to create and solve problems involving whole numbers, decimals and simple fractions

#### Division

- Divide any whole number by a 1-digit number
- Explore estimation strategies for dividing by

10 or multiples of 10

- Divide a decimal fraction by a 1-digit number
- Use materials to divide fractions
- Use appropriate methods-mental, calculator or paper and pencil-to solve and create problems involving whole numbers, decimals and fractions
- Relate division to simple rate, e.g. \$70 per hour
- Compare and calculate rates
- Estimate whole numbers, decimals and fractions
- Use patterns to investigate division involving fractions

#### Time and Money

- Convert two time units to one, such as, hour and minutes to minutes
- Read and interpret timetables
- Relate years, decades and centuries
- Solve and create problems with time and/or money
- Calculate elapsed time-hours and minutes
- Use rates involving time and/or money
- Calculate in everyday situations-profit, loss and discounts
- Apply simple statistics-mean, median, range-to money
- Solve and create problems with time and/or money

#### Length, Weight, and Capacity

- Explore the origin of metric prefixes and relate to the numeration system
- Convert between all units within the same

system

- Investigate the perimeter of any shape
- Use the idea of rate when working with measurement
- Investigate circumference and (
- Relate length, weight and capacity in the metric system
- Solve and create problems using appropriate measurement units

#### Area and Volume

- Use a cubic meter as a model for one million
- Explore relationships between area and perimeter
- Estimate the area of regular and irregular shapes
- Develop length times width times height as an efficient way to count cubic units that fit a rectangular prism
- Use appropriate measurement units to solve and create problems

#### Geometry

- Sort and classify polygons and polyhedra
- Construct and recognize 2-D and 3-D shapes in the environment
- Investigate circles and parts of circles
- Measure and classify angles
- Extend the investigation of congruence of shapes and angles with shapes
- Use instruments to construct geometric shapes
- Investigate 3-D shapes-surfaces and projections
- Classify shapes according to their angles
- Find and construct similar shapes

- Use transformations-flips, slides, turns

### Graphs, Statistics, and Probability

- Interpret and construct graphs on a coordinate grid
- Introduce stem and leaf plots
- Investigate mean, median, mode and range
- List outcomes for an event
- Relate probability to fractions
- Use probability and statistics to solve appropriate problems

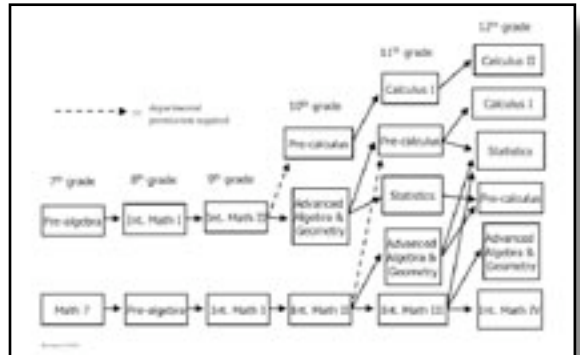
### Algebra

- Use everyday or mathematical words to describe number patterns and relationships
- Use word sentences, verbal rules, and where appropriate, equations to describe real-world relationships, such as, cost price + \$8= selling price
- Graph and describe the relationships of real data on a coordinate grid

### Grade 6

- Work with numbers to billions
- Understand decimals and fractions
- Use calculation skills in all operations
- Use numerical patterns
- Understand percent, ratio, and proportion
- Explore geometry
- Develop skills using measurement
- Use tables, graphs and charts
- Develop strategies for problem solving
- Use number theory
- Utilize probability and statistics
- Develop visual and spatial thinking
- Understand integers

*This diagram shows the recommended sequences of math courses from Grade 7 through Grade 12. Most students will begin with Math 7 and complete Integrated Math II in Grade 10. They will have choices for their math in Grades 11 & 12.*



### Grade 7

- Solve problems using the four step plan, estimation, mental math, pen and pencil or calculator
- Estimate sums, differences, products and quotients to determine whether answers are reasonable
- Compare, order, estimate, round, multiply, divide, add/subtract whole numbers, decimals, fractions and integers
- Evaluate number bases and use scientific notation
- Find mean, median, mode and range for a set of data
- Construct and evaluate graphs and charts
- Use formulas and translate numbers in written form
- Identify and classify geometric figures
- Find volume and surface area of prisms and cylinders

- Find area, perimeter, circumference and volume of geometric figures
- Identify and construct points, lines, rays, and angles
- Recognize perpendicular and angle bisectors
- Identify exponents, roots, negative numbers, and absolute value
- Relate and compare fractions, decimals and percents
- Budget money and solve problems involving sales tax, discount and simple interest
- Examine functions of probability
- Solve two-step equations and equations with variables
- Graph equations, ordered pairs, functions and transformations
- Estimate and convert measurement

## Grade 8

- Illustrate the relevance of mathematics by incorporating real world applications and connecting mathematics to other subject areas
- Use technology, including the Texas Instruments TI-82 and TI-83 graphics calculators, to explore concepts
- Enhance communication and visual learning skills by exploring, discussing, and writing
- Illustrate the power of mathematics as a problem solving tool
- Model everyday situations using linear equations and geometric formulas
- Use research, hands-on, cooperative, and communication activities to help reinforce learning
- Use logical reasoning to discover and ex-

plain concepts

- Integrate concepts from geometry, algebra, data analysis, and statistics

*Also available to more advanced eighth grade students: Integrated Mathematics. This is the first of a three-year program which will prepare students for success in college, in careers, and in daily life. It will help develop the ability to explore and to solve mathematical problems, to think critically, to work cooperatively with others, and to communicate ideas clearly.*

## Integrated Mathematics 1

- Exploring and Communicating Mathematics
- Measures and Equations
- Recognize money and know its values
- Use various tools of measurement
- Identify basic geometric shapes
- Use strategies to solve word problems
- Representing Data
- Coordinates and Functions
- Equations for Problem Solving
- Ratios, Probability, and Similarity
- Direct Variation
- Linear Equations and Models
- Reasoning and Measurement
- Quadratic Equations and Models

## Integrated Mathematics 2

- Linear, quadratic, and exponential functions
- Solving various types of equations and systems of equations
- Geometry
- Right triangle trigonometry
- Sequences and series

- Matrices
- Probability and odds

### **Integrated Mathematics 3**

- Modeling and problem situations
- Exploring and applying functions
- Logical reasoning and methods of proof
- Sequences and series
- Exponential and logarithmic functions
- Modeling and analyzing data
- Applying probability models
- Angles, trigonometry, and vectors
- Transformations of graphs and data
- Periodic models

### **Integrated Mathematics 4**

- Arithmetic
- Algebra
- Functions
- Geometry
- Trigonometry
- Vectors
- Computer applications
- Computer programming
- Probability
- Statistics

### **Advanced Algebra w/ Geometry**

- Algebra
- General properties of functions
- Linear functions
- Quadratic functions
- Exponential functions
- Logarithmic functions
- Rational & irrational functions

- Systems of equations
- Complex numbers
- Trigonometry
- Trigonometric functions
- Sequences & series
- Special triangles
- Angle relationships
- Quadrilaterals
- Circles

### **Pre-Calculus**

- Pre-calculus mathematics
- Polynomial and Rational numbers
- Exponential, Logarithmic & Trigonometric functions
- Complex numbers
- Vectors
- Matrices
- Sequences & Series
- Probability
- Analytic geometry

### **Statistics**

- Collecting data
- Analyzing the data collected
- Drawing conclusions from the analysis

### **AP Calculus (AB)**

- Functions and graphing review
- Limits -- looking at “holes” in functions
- Derivative -- extending of the concept of slope
- Derivative -- rate of change
- Using the derivative to optimize
- Integration -- area under a curve

- Integration -- extending integration to find volume
- Simple differential equations and slopefields

### AP Calculus (BC)

- Solve problems involving the application of derivatives and integrals
- Create and use sequences and series including Maclaurin and Taylor series polynomials
- Apply a variety of techniques to evaluate integrals
- Define and analyze functions using parametric equations and polar coordinates
- Apply techniques of separation of variables, integrating factors, and slope fields to solve differential equations

## Science

### Grade 1

#### Earth / Space

- Understand that our sun is a star located in the Milky Way galaxy.
- Be aware that the sun and other stars appear to move in a recognizable pattern both daily and seasonally.
- Be able to relate Earth's position to the other eight planets of our universe.
- Build a model representing the position of the nine planets in our universe.
- Design a model representing the water cycle and the seasonal cycle.

#### Life Science

- Be able to describe the conditions under which animals can live and thrive.
- Be able to explain that all animals depend on plants. Some animals (predators) eat other animals (prey).
- Understand that animals that eat plants for food may in turn become food for other animals. This sequence is called a food chain.
- Describe the major stages of life cycles of selected plants and animals.
- Understand that growth is the process by which plants and animals increase in size.
- Understand that each animal has different structures that serve different functions in its growth and survival.
- Recognize that in order to survive in their environment, plants and animals must be adapted to their environment.

## Physical Science

- Understand that matter exists in different states: solid, liquid, and gas (and plasma)
- Identify characteristics of solids, gases and liquids.
- Understand that matter is anything that has mass and takes up space.

## Science / Math

- Be able to describe when it is better to use an estimate and when it is not.
- Be able to recognize when to use appropriate forms of measurement (ruler vs. balance vs. measuring cup).
- Begin using simple scientific tools (thermometer, hand lens, binocular microscope).

## Grade 2

### Earth / Space

- Collect and record weather conditions through the use of temperature, wind direction/wind speed, form and amount of precipitation, basic cloud type and general sky condition (cloudy, sunny, partly cloudy, rainy, windy)
- Observe and record weather changes through the seasons and note the effects on schoolyard habitat(s)
- Observe that everyday events involve one form of energy being changed to another such as the sun's energy warms the air and water.

### Life Science

- Realize that energy and matter interact as when water is evaporated by the sun's heat. (Heat energy from the sun influences the

water cycle. )

- Show that nonliving things can be human-created or naturally occurring and do not live or thrive.
- Understand that birds and insects need air, water and food in order to live.
- Understand that trees require air, water, nutrients and light in order to live and thrive.
- Describe the basic life functions of birds, insects and trees.
- Describe how the structures of birds and insects complement the surrounding environment for growth, survival and reproduction.
- Describe how the structures of a tree help it to grow, survive and reproduce.
- Describe how birds, insects and trees have adapted to their environment in order to survive.
- Describe how plants and animals depend upon each other and the physical environment.
- Realize that green plants are producers and animals depend on plants.
- Understand that as the seasons change, some insects and birds survive, while others die or move to new places.
- Realize that bird and insect behaviors are influenced by environmental conditions such as nesting, hibernating, hunting and migrating.
- Trees respond to seasonal changes such as seeds germinate, leaves form or change colors.

### Physical Science

- Observe that magnets attract or repel thus

changing the position of an object. (Opposite poles attract; poles which are the same repel)

- Test and sort various objects to see which can be picked up by a magnet.
- Observe that the force of magnetism on objects decreases as distance increases.
- Observe that the force of magnetism can affect objects through gases, liquids and solids.
- Observe that iron and steel become temporarily magnetized when a magnet is placed nearby and stops the magnetism from going through

### Grade 3

#### Earth / Space

- Define mass and recognize that all objects have mass and take up space.
- Define matter and state that matter is made of atoms.
- State that there are different kinds of matter because atoms join together in different ways.
- Describe the properties of matter in the solid, liquid, and gaseous state.
- Observe and describe how states of matter can be changed.

#### Life Science

- Define a habitat and a biome.
- Discuss the difference between a biome and a habitat.
- Communicate how plants and animals are adapted to their habitats.
- Communicate how people change habitats.
- Infer why people should conserve wildlife

and natural habitats.

- Identify different biomes and their characteristics.
- Understand that cells are the building blocks of the human body.
- Define tissue, organ, and organ system.
- Conclude that most cells grow and replace themselves continuously.
- Communicate the main functions of the body systems.
- Compare the characteristics of different seeds.
- Operationally define seed
- Observe and identify the common parts of a seed and explain their function.
- Define germination.
- Identify conditions needed for seeds to germinate.
- Identify the ways in which seeds are dispersed.

#### Physical Science

- Describe ways in which simple machines are used in everyday life.
- Identify and use simple machines and describe how they change effort.
- Manipulate simple mechanical devices and explain how their parts work together.
- Define force and work.
- Estimate the relative amounts of force needed to move various objects.
- Explain that the force needed to move an object depends on the object's mass.
- Define friction.

## Grade 4

### Earth / Space

- Compare amounts of land and water on the earth's surface
- Identify forms of ocean life
- Compare fish to marine mammals
- Describe adaptations to ocean life, food supply, light, temperature
- Identify parts of the ocean floor where most sea life exists
- Locate and compare the oceans on a map
- Identify parts of the ocean floor
- Describe how minerals get into the water
- Identify parts of a wave
- Describe effects of tide
- Describe importance of Oceans to people
- Give examples of valuable minerals obtained from oceans
- State uses of ocean transportation
- Explain how tides can be used to produce energy
- Identify importance of the ocean in the water cycle
- List potential problems in the future for oceans
- Propose possible solutions
- Define & identify layers of the earth
- Create, label, & color diagram of the layers
- Conclude Rocks & minerals are formed in the crust

### Life Science

- Identify forms of ocean life
- Compare fish to marine mammals
- Describe adaptations to ocean life, food supply, light, temperature

- Identify parts of the ocean floor where most sea life exists
- Describe the food web as it pertains to the ocean

### Physical Science

- Explain that light is a form of energy
- Infer that energy can be released from some matter in the form of light energy
- Describe how light fits into the electro-magnetic spectrum
- Explain the difference between naturally and artificially produced light
- Illustrate how light travels in straight lines, can be reflected, or refracted
- Compare and contrast sound waves and light waves
- Describe how light behaves with objects that are transparent, translucent, and opaque
- Classify objects by color
- Indicate how light is used in every day life
- Appreciate the importance of the sense of sight
- Explain the relationship between the iris and the pupil
- Identify the lens on a drawing of the eye
- Describe the function of the optic nerve
- Describe how the brain is involved in the process of seeing
- Explain the effects of light on the iris
- Discuss common problems and care of the eye
- Review & identify kinds of magnets
- Review and demonstrate the Law of Magnetic Attraction
- Hypothesize and list objects that are attract-

ed to a magnet

- Explain how to magnetize an object
- Indicate and compare permanent and temporary magnets, understanding that magnetism is being transferred.
- Define Electricity
- Identify common uses of electrical energy
- Infer how people's lives would be different without electricity
- Identify and create both series and parallel electric circuits using switches, insulators, conductors
- Describe the difference between static and current electricity
- Describe safety rules dealing with electricity
- Identify north and south poles
- Classify common uses of magnets
- Infer the importance of magnets
- Explain the earth's magnetic field
- Compare attracting and repelling balloons to poles of a magnet
- Explain the properties of static electricity by describing how electrons move and materials become negatively or positively charged
- Demonstrate how to make static electricity
- Cite examples of static electricity from their environment
- Demonstrate knowledge of how electricity can be harmful and helpful
- Recognize and appreciate the role sound plays in our lives.
- Infer sounds have positive & negative effect
- List helpful & harmful sounds
- Explain sounds are caused by vibrations
- Define pitch as the speed of a vibration
- Determine relationship between pitch and

frequency

- Experiment with Sound traveling through solids, liquid, and gas
- Recognize that sound travels in waves in all directions
- Design and create musical instruments
- Infer that volume decreases as distance increases
- Demonstrate how pitch and volume can be modified
- Recognize the purpose of our ears
- Identify the parts of the ear
- Describe how each part works
- Explain how we hear sounds from an object vibrating to our brain receiving the message.
- Infer how disease or injury can affect hearing
- Discuss how we use sound in our every day lives
- Recognize that there is a range of sounds that humans can and cannot hear

## **Grade 5**

### Earth /Space

- Explain how the sun is essential to life on earth.
- State that the sun is the source of all energy.
- Demonstrate evidence that the earth rotates one time every 24 hours
- Describe the effect on seasons, calendar and day / night cycles as the earth travels around the sun
- Observe and chart the phases of the moon
- Describe how the changes in seasons are due to the tilt of the earth's axis and the earth's revolution around the sun

- Identify the names, order and characteristics of planets
- Explain the relationship between the sun, earth and the moon to day / night, gravity, eclipses, and tides.

### Life Science

- State that cells are the basic unit of structure and function of living things
- Explain the impact raptors have on the environment and the effects that would occur if raptors did not exist
- Describe parts of a cell and size of cells for vertebrates
- Explain how cells provide structure and carry on major functions to sustain life
- Compare and contrast single celled organisms to multi-cellular organisms
- Investigate differences and compare and contrast between cellular structure of invertebrates and vertebrates
- Using a dichotomous key classify different vertebrates
- Identify vertebrate class when given several key characteristics
- Explain how a biome's resources determine what living things can survive there
- List what vertebrates need to survive
- Demonstrate understanding of how plants respond to light and gravity
- Explain how plants help keep the carbon dioxide and oxygen cycle balance
- Examine plant cells and compare them to animal cells
- Identify plant parts and functions
- Investigate interactions in an ecosystem

including food chains, food webs and food pyramids

- Identify the significance of plants in the environment
- Describe physical characteristics of raptors
- List ways that raptors differ from other types of birds

### Physical Science

- Explain when an object is in motion and how motion is relevant to a reference point
- Calculate an object's speed and velocity using SI units of distance
- Graph motion, showing changes in distance as function of time
- Describe what happens to the motion of an object as it accelerates
- Calculate the acceleration of an object and graph its changing speed and distance
- State Newton's 3rd Law of Motion and demonstrate understanding
- State Bernoulli's Principle
- Cite examples of why fossils are important to scientists.
- Describe where fossils are found.
- Explain how fossils are made
- Describe how fossils help scientists learn more about the Earth's past
- Explain how balanced and unbalanced forces relate to motion
- State Newton's 1st Law of Motion and define inertia
- Describe friction and identify factors that determine the friction between two surfaces
- Explain how mass is different from weight
- State the Universal Laws of Gravitation

- Describe effects of gravity and air resistance on an object in freefall

## Grade 6

### Earth Space

- Describe the ways in which heat travels from the sun and how it travels once on earth
- Describe the effects of heating on air and water molecules in the atmosphere
- Explain the role of moisture (water) in different aspects of weather
- Identify how the earth's rotation affects weather
- Use technology to get information about climate conditions different from New Hampshire's
- Infer changes in weather given certain information (i.e, changes in pressure, appearance of some clouds)
- Explain how crystals are useful in our every day lives
- Interpret how ancient life existed through the study of fossils

### Life Science

- Demonstrate an increasing ability to recognize patterns and products of evolution, including genetic variation, specialization, adaptation, and natural selection
- Demonstrate the skills necessary to be keen observers of nature
- Demonstrate an increasing ability to understand that organisms are linked to one another and to their physical setting by the transfer and transformation of matter and

energy

- Conduct a simulation to study heredity
- Demonstrate an increasing ability to understand fundamental structures, functions, and mechanisms of inheritance found in living things

### Physical Science

- Describe what matter is made of, and how matter can change both physically and chemically
- Observe, describe and measure the general properties of substances
- Demonstrate an increasing ability to understand that matter is composed of dynamic interactive units or particles and that all the properties and changes in matter can be explained in terms of the forces involved in the interactions of these
- Explain the difference between chemical and physical changes in matter
- Demonstrate The Law of Conservation of Matter
- Explain how substances are recycled through natural systems
- Observe different forms of energy and how they can be transformed
- Demonstrate an increasing ability to understand the relationships among different types and forms of energy.
- Demonstrate how to conduct a scientific experiment
- Demonstrate an increasing understanding of how the scientific enterprise operates.

## Grade 7 – Life Science

- Describe habitat components, methods to manage wildlife, and the biology of a NH species
- Describe characteristics of living things
- Describe cell anatomy and cell processes
- Understand basics to Mendelian genetics and become aware of genetic technology, and the ethics involved
- Describe and classify the six kingdoms of life
- Understand the dynamics of changing populations
- Describe the evolutionary processes
- Demonstrate an understanding of scientific method
- Understand scientific concepts and knowledge needed to study and appreciate the world around us
- Environmental unit
- Origin of Life & Historical Perspectives

## Grade 8 – Earth Science

- Explore earth's dynamics & composition
- Understand how to identify problems and strategies needed to solve them
- Identify the tools scientists use to study the earth
- Construct various types of graphs and maps
- Understand the chemistry of the earth and its minerals
- Investigate the forces of change in the earth's surface and how those changes relate to geological history
- Explore the waters of the earth

- Examine the earth's atmosphere and its importance to living things
- Understand how people's lifestyles change the earth
- Describe the physical and chemical characteristics of the components making up our solar system
- Understand the magnitude of size and distance among objects in the universe

## Physical Science

- The gravitational force: mass, weight, density, force fields, graphing on Excel
- Forces make motion: Newton's Laws, velocity, acceleration, using digital photography to graphically analyze motion
- Fluids: density, buoyancy, gas laws
- The electric force: simple electrical circuits, charge, batteries, measuring current, voltage and resistance
- The electric force holds atoms and molecules together: atomic structure, ionic and covalent bonding, periodic trends
- The electric force suspends matter: solutions, colloids, polarity, acids-bases, pH measurement
- Electromagnetic interactions: magnetism, make an electric motor
- Electromagnetic radiation: light, plane & concave mirrors, reflection, refraction
- Conservation of energy: kinetic and potential, calorimetry, energy conversions, simple machines, make a Rube Goldberg machine

## Biology

- Gain an understanding of basic biological concepts and principles and apply them in laboratory investigations and individual and group presentations
- Develop appreciation and understanding of the scientific methods as the principle means of investigation
- Demonstrate mastery of scientific equipment and materials while following safety guidelines
- Learn to work in cooperative and collaborative groups
- Design, conduct and present an original research project (Honors Biology)

## Biology 2

- Demonstrate knowledge of the biological concepts in the three major subdivisions of the course
  - Unit I- Biochemistry
  - Unit II- Genetics and Evolution
  - Unit III- Ecology, Organisms, and Populations
- Develop an understanding of the following:
  - Characteristics, unity and diversity of living things
  - The concepts of evolution as an explanation of unity and diversity
  - Homeostasis
- Develop skill in the following areas:
  - Experimental design, and the collection, analysis, and interpretation of data
  - The reading and interpretation of scientific information

- The application of biological concepts to new situations including those involving human and society
- Develop the following attitudes:
  - The nature of science as an ongoing human enterprise
  - The limitations of science
  - An awareness of the interdisciplinary nature of biology
  - An appreciation of and respect for life

## Chemistry

- Assimilate and interpret data and present it as a formal lab report
- Apply mathematics to solve many of the chemical – mathematical problems such as empirical formula, mass – mass, equilibrium, and pH
- Titrate, measure, filter, find boiling points and freezing points, determine density, find pH, perform calorimetry experiments, record pertinent observations, collect gasses, and prepare solutions of specified concentrations
- Be able to predict products of reactions, calculate the amount of products, determine the energy of reaction, specify the factors which affect the rate of reaction, determine where equilibrium lies, and be able to identify the oxidized and reduced species in a redox reaction.
- Be able to identify the type of bonding involved and predict the bond angles
- Contrast the quantum mechanical nature of the atom with the classical mechanical macroscopic world

- Predict a chemical's physical and chemical properties to include valence, ionization energy, atomic volume, and type of bonding by use of the periodic table.

## AP Chemistry

*The same as Chemistry but more in-depth.*

### Creative Chemistry

- Quantitative analysis through the study of water (solutions, ions, titration, spectroscopy)
- Forensic chemistry (spectroscopy, biotechnology, chromatography, chain of custody, ballistics, cloth identification, casts and molds)
- States of matter (Kinetic Molecular Theory, gas laws, specific heats, solid structure, distillation, phase equilibrium)
- Chemistry of cooking (bonding, colligative properties, biochemistry, enzymes)
- The chemistry of hazardous materials (toxins, chemical warfare, kinetics, thermodynamics, acid-base, RedOx)

### Environmental Science

- Master GIS (ArcView 3.3 and ArcGIS 9) skills
- Develop naturalist's skills including plant and animal identification, forest and wetland identification, and animal tracking techniques
- Identify, categorize and inventory natural resources of Hopkinton
- Create and maintain field notebooks, which

will be archived

- Organize and manipulate data to create digital images and maps of Hopkinton
- Build an observational data portfolio

## Physics I

- Mastery in data assimilation and interpretation as well as use of Excel
- Apply algebra and geometry skills to solve problems
- Become familiar with mechanical, fluid, electrical and wave systems
- Understand the conditions for equilibrium in all above systems
- Understand the conditions for dynamic change in the above systems
- Understand thermodynamic behavior in the above systems
- Explore energy transfer and transformation in the above systems
- Be able to apply physics concepts to real life
- Be able to understand the basic concepts of 20th century physics such as relativity and chaos theory

## Physics II

- Master data assimilation and interpretation as well as use of Excel
- Apply algebra and geometry skills to solve problems
- Master applications of Calculus I in problem solving
- Kinematics: study of motion
- Dynamics of Newton's Laws
- Thermodynamics and conservation of energy

- Uniform and nonuniform circular motion
- Momentum and its transfer
- Simple harmonic motion
- Wave theory
- Carnot engines and applied thermodynamics

## **Social Studies**

### **Kindergarten**

- Distinguish likenesses and differences among individuals
- Understand how people need others and recognize their wants and needs
- Gain an understanding of laws and rules and respect persons in authority
- Understand the role of public officials, such as the US President and Vice-President
- Understand that people change over time
- Describe changes in one's self
- Understand the concepts of yesterday, today, and tomorrow and the use of a timeline
- Discover varieties of different celebrations and customs that children celebrate
- Construct simple maps of home and school settings

### **First Grade**

- Define what makes a family, a family's physical features, and understand that families are different
- Understand their role as a member of a family
- Describe human adaptations to variations in the physical environment
- Recognize the economic needs of their family and how they are met
- Compare and contrast how families live in other cultures
- Discover that families have a past and they change over time
- Show how inventions have changed our lives

- Explain that Americans have a variety of different family celebrations and customs
- Gain an understanding of laws and rules
- Recognize the need for rules in different settings
- Understand the role of authority figures and public officials
- Identify and explain the meaning of American national symbols
- Give reasons for celebrating the events or people commemorated in national holidays
- Understand that the United States has a cultural heritage
- Demonstrate how maps serve as representations of places, physical features and objects
- Understand places can be located on maps and globes

## Second Grade

- Define a community
- Describe how communities differ from place to place (urban, suburban, rural) and are influenced by environmental and geographic features
  - Be able to identify how environmental and geographic factors affect where and how people live
  - Locate major physical and man made features in our community
  - Begin to understand how climate influences vegetation patterns
  - Identify features of maps and globes
- Compare daily life in the past and present to demonstrate that people have always been dependent on each other and their environment, and natural resources, to meet the needs and wants of their community
- Use correctly words and phrases related to time (now, in the past, in the future)
- Locate events on calendar including birthdays, holidays and school events
- Use the clues found in communities to learn about daily life in the past (historical landmarks, photographs, maps, historical society, walking tour of Hopkinton)
- Compare the housing of people from different historical time periods
- Use stories to describe past events, people, and places (Biographies, diaries, journals, oral history and folklore)
- Emphasize examples of individual actions, character, and value
- Understand that communities provide goods and services to help meet human needs and wants
- Understand that people in communities are both buyers and sellers of goods and services (define consumers and producers)
- Compare food production and consumption long ago and today (farmers, distributors, weather, land and water resources)
- Understand that people make choices due to needs and wants and available resources
- Know that money is a generally accepted medium of exchange for goods and services
- Know that different countries use different currencies
- Identify characteristics of good citizenship

as exemplified by historic and ordinary people.

- Understand that government provides order to a group, such as a school or community
- Know that Rules have a purpose and consequences
- Comprehend the importance of respect for laws of the community
- Identify concerns in the community, such as safety issues, pollution problems, and identify ways that citizens can resolve concerns
- Know that customs, symbols, and celebrations represent American beliefs and principles and contribute to our national identity
- Understand the display and use of the US Flag
- Understand major Holidays commemorating American heroes
- Understand that there were many reasons people came to the United States, and that they brought with them their beliefs, culture, and traditions.
  - Understand that family ancestors come from different countries
  - Be able to trace the history of an immigrant family using resources such as artifacts, photographs, interviews, and primary documents
  - Understand that different communities and cultures have influenced our common national heritage
  - Explore several cultures in a community through their various artistic expressions

(language, stories, folktales, music and artistic creations)

- Describe various holidays and celebration in different cultures
- Encourage active learning at cultural institutions, such as museums and historical exhibits (Highland games, Antiquarian Society)

### **Third Grade**

- Understand the meaning of culture
- Be able to compare other cultures with our own
  - Where people settle to live and why
  - Family structures
  - Art and music
  - Stories of the people
  - How people celebrate: holidays and festivals
  - Important historic events that shaped the culture
  - Monuments and memorials important to the culture
  - Beliefs, customs, and traditions
  - How lifestyles are affected by environment and geography
  - Map Skills: Continents, Oceans, Globe, Equator, Tropic of Cancer and Capricorn, Ordinal Directions
  - Understand where we live in relation to the rest of the world
  - Identify places that make our country unique
- Understand where we live in relation to the rest of the world
- Identify places that make our country

unique

- Interpret how geological processes shaped the physical environments of the United States
  - Use maps and globes to identify continents, oceans, countries, states, rivers, and physical features
  - Be able to identify various landforms: peninsula, island, mountain, river, bay, ocean, lake, etc.
  - Understand maps as a tool to find where we are located in the world
  - Identify unique places in the USA: Grand Canyon, National Parks, Niagara Falls, Great Lakes, etc.
- To broaden students' understanding of their past and their historical roots
- To understand how individuals, events, and ideas have influenced the history of various communities
- To develop spatial views and geographical perspectives
- To make connections between exploration long ago, today, and in the future
- Explain reasons people choose to explore new places
- Identify information gained by the explorers
- Identify important explorations in our nation's history
- Create time lines which map out the Age of Exploration as compared to modern explorations
- Describe the accomplishments of explorers such as: Leif Ericson and the Vikings, Christopher Columbus, Juan Ponce de Leon, Vasco Balboa, Ferdinand Magellan,

Jacques Cartier, Samuel de Champlain, Henry Hudson, John Cabot, Sir Frances Drake

- Analyze the motivations of Spain, France, England and the Netherlands as they explored the New World hoping to find riches and an all-water route to the Far East
- Understand how explorers have contributed to the expansion of existing communities or the creation of new communities
- Look at supply and demand in relation to reasons for exploration

#### **Fourth Grade**

- Demonstrate knowledge of pre and post Colombian Native American cultures (social structure, foods, tools, shelter, transportation)
- Understand the Native American's influence on Colonial life and early New Hampshire
- Read and write legends and folklore as a method of oral history and communication
- Explain the eventual fate of the Native Americans
- Describe reasons why many Europeans left their homes
- Describe the reasons people established early settlements
- Compare/contrast the interactions of the early settlers and the Native Americans
- Understand other aspects of colonial life (health, recreation, crafts and trades, morals and values)
- Discuss the beginnings of early government
- Locate and label the 13 original colonies

- Understand the development of early NH geography, physical features, natural resources, economics, early government and town meetings
- Identify famous New Hampshire people and their contributions to the state
- Identify and label major cities, state symbols, and wildlife
- Familiarize themselves with structure of the three branches of state government
- Become familiar with Hopkinton history
- Increase knowledge and understanding of physical and political aspects of the world as they relate to geography
- Become familiar with the five themes of geography (location, place, human/environment interaction, movement, regions)
- Understand and use basic map skills in order to obtain information from a variety of maps
- Use and create various graphs and charts that compare/contrast collected data
- Create a variety of maps using newly acquired skills

### **Fifth Grade**

- Identify economical and political issues that changed the relationship between the colonies and England
- Describe the events between the American colonies and Great Britain that led to American independence
- Identify important ideas in the Declaration of Independence
- Identify individuals who played important roles in shaping events of the American

### **Revolution**

- Understand that the American victory over the British left the colonists in need of self-government
- Describe the cultural, economic, and constitutional differences between the North and the South that eventually resulted in the Civil War
- Recognize that many individuals played important roles leading up to and during the Civil War
- Evaluate the effects of the Civil War on the North and South
- Understand that the Articles of Confederation was a constitution written to establish the powers of the new national government
- Explain the purpose of the U.S. Constitution as identified in the Preamble to the Constitution
- Understand that the structure of the Constitution allows a permanent document to change
- Understand that government today continues to grow and respond to the changing needs of American people and to people across the world
- Understand that our country was influenced by Westward Movement in the late 19th and 20th century
- Develop an awareness of exploration and settlement of the early west
- Demonstrate an understanding of how ideas, events, and conditions bring about change over time
- Examine how westward migration was influenced by geography and westward expansion

- Examine how different beliefs, values, traditions, and motives cause individuals and groups to interpret historic events and issues from different perspectives
- Develop a sense of historical empathy seen through the eyes of people who took part in the westward expansion
- Explain how equipment produced in the North had an impact on the farming society in the South
- Describe how a region's geographic features affect the settlement and development of people in that region
- Compare and contrast the industries, natural resources, land and water features, climate, and human activities that shape the characteristics of each region
- Understand that the United States is a country in North America made up of 50 states each with a capital city
- Demonstrate geographical knowledge about the fifty states and their capitals
- Identify individual character, culture and unique attributes of different states, including national and historic points of interest
- Apply geographic tools, including grid systems, legends, symbols, and compass roses to collect, analyze, and interpret data from a U.S. map
- Recognize state leaders and their responsibilities
- Identify the process of a bill becoming a law
- Compare different ways to measure time
- Analyze key turning points and events in ancient world civilizations
- Investigate the role of religion in early societies
- Understand how geography and climate influence society
- Differentiate between types of governments and analyze their advantages and disadvantages
- Identify major figures from ancient civilizations and their contributions
- Demonstrate knowledge of important cities, landmarks and geographic features in ancient civilizations
- Formulate historical questions based on examination of primary and secondary sources including documents, eyewitness accounts, letters and diaries, artifacts, historical sites, maps, charts, graphs and written texts
- Describe what life was like for early man
- Identify contributions of early man to modern society
- Understand ways in which historians gather information about the past
- Understand challenges of early man
- Understand how and why foreign policies affect the lives of American citizens
- Recognize local, national and global issues and their importance
- Examine current concepts, issues, events and themes from multiple perspectives
- Understand the ways different people view

## **Sixth Grade**

- Identify primary responsibilities of each branch of the U.S. government
- Understand basic uses of our Constitution
- Describe the citizenship process and the benefits of being an American citizen
- Recognize local, national and global issues and their importance
- Examine current concepts, issues, events and themes from multiple perspectives
- Understand the ways different people view

the same event or issue from a variety of perspectives

### **Grade 7 – Geography**

- Exhibit geographic skills
- Describe physical landforms
- Explain origins of physical landforms
- Identify areas of changing physical landforms
- Explain geographic influences on weather patterns
- Discuss the factors that influence climate patterns
- Examine Roman cultural origins
- Explain the beginning and ending of the Dark Ages
- Relate Roman influences on European culture
- Compare cultures and belief systems
- Understand Middle-Eastern origins of some religions
- Compare belief systems
- Discuss current events
- Understand human settlement patterns of the world

### **Grade 8 – American History**

- Demonstrate the development of social science skills including inquiry, discussion, role playing, research, writing, analytical thinking, critical interpretation, and oral presentation
- Investigate, understand, and explain the outcomes of the forces of intolerance in America
- Explain the role of geographic determinism

in the settlement of NH and the US

- Investigate the forces that facilitated immigration to the US from the 1840's to the present and gain an understanding of the life and work of the first generation of Irish immigrants
- Be able to explain the basic operations of the Federal Government
- Express the relationship of the 18th and 19th century technology to growth, industry, agriculture, and social unrest
- Be able to discuss the forces of sectionalism, ethnic diversity, conflict, compromise, and assimilation in American society
- Discuss the lives and impact of several significant Americans of the 18th, 19th, and 20th centuries, including personalities from NH

### **World History**

- Understand the societies of the past so that they can better understand societies in the present
- Evaluate political, economic, and social systems of various countries and societies
- Appreciate the contributions of various cultures and personalities in the development of World History
- Recognize the events and movements in World History that have shaped our modern world
- Develop reading, writing, and thinking skills along with their use of the tools of history
- Develop an understanding of the development of art, music, and literature throughout World History.

## United States History

- Understand and appreciate events and understand how they influence current decisions (Constitutional Heritage, Global Relations, Cultural Diversity, Democratic Values, Technology and Society, Economic Development)
- Understand how the following influenced the history of the United States
  - Colonization
  - Revolution
  - Constitution
  - Federalism
  - Nationalism
  - Civil War
  - Reconstruction
  - “Western Crossroads”
  - Industrialization
  - Progressive Era
  - “America & the World”
  - World War I
  - Great Depression
  - World War II

## Introduction to Economics

- Understand basic economic principles including:
  - Scarcity
  - Supply and Demand
  - Competition
  - Economic indicators
  - Factors of Production
  - Financial markets
  - Distribution of wealth
  - Monetary Policy

- Economic systems
- Role of Profits
- Fiscal policy
- Interpret issues and events using economic principles
- Communicate ones understanding of economic principles using a variety of mediums

## The Law and You

- Understand the necessity of law including:
  - Criminal actions
  - Civil actions
  - Constitutional rights
  - Court structure and process
- Understand the principles of constitutional rights
- Identify criminal behaviors according to statute
- Understand court structure and proceedings
- Understand the basic elements of torts

## Contemporary Issues

- Discuss and debate current and historical issues of importance
- Recognize the characteristics of current problems which will affect the future
- Identify the concepts, principles, and generalizations that relate to local, national and international problems
- Effectively use charts, graphs, tables, indices, and other measurement tools that appear in Newsweek and other sources
- Promote and develop problem solving techniques
- Become familiar with local, national, and

world personalities

- Demonstrate knowledge of how contemporary problems have their origins in history

### **AP United States History**

- Acquire a conceptual knowledge of history
- Read and digest factual information independently
- Analyze and draw conclusions about historical events
- Understand personal values and their relationship to history
- Develop the needed writing skills to communicate ideas clearly
- Explore our heritage as a means of understanding ourselves and our place in history

### **Psychology I**

- Understand basic psychological principles including:
  - Psychological perspective
  - Principles of learning
  - Personality theory
  - Abnormal behavior
  - Testing
  - Attitude formation
- Interpret issues and events from a psychological perspective
- Appreciate the role of research in the development of psychological theory
- Communicate one's understanding of psychological principles using a variety of mediums

### **Psychology II**

- Understand how the brain works
- Understand sensation
- Understand what motivates us
- Understand what causes stress
- Identify a well adjusted person
- Understand how attitudes are formed

### **Sociology**

- Understand basic sociological principles including:
  - Sociological Perspective
  - Culture
  - Social Control
  - Social Structure
  - Deviance
  - Social Stratification
  - Religion, Science and Sport
- Interpret issues and events using the sociological perspective
- Communicate one's understanding of sociology using a variety of mediums

# World Languages

language studied

*Students have the option of choosing between Spanish, French, or German.*

## Grade 7

- Begin developing the five areas of language acquisition: speaking, listening, reading, writing and cultural awareness
- Learn basic courtesy formulae
- Formulate declarative and interrogative sentences
- Use vocabulary required to express needs regarding basic objects, places, people, and kinship
- Recombine learned elements such as numbers, telling time, colors, foods, clothing, etc.
- Learn information regarding important dates, events and people in the culture and language studied

## Grade 8

- Begin the development of the five areas of language acquisition: speaking, listening, reading, writing, and cultural awareness
- Learn basic courtesy formulae
- Formulate declarative and interrogative sentences
- Use vocabulary required to express needs regarding basic objects, places, people, and kinship
- Recombine learned elements such as numbers, telling time, colors, foods, clothing, etc.
- Learn information regarding important dates, events and people in the culture and

## Level 1

- Speaking:
  - Learn to express basic courtesy formulae
  - Ability to ask questions or make statements with learned material
  - Ability to express needs regarding basic objects, places, kinship
  - Ability to recombine learned elements
  - Ability to identify some important dates, events and people in the culture and discuss their significance
- Listening:
  - Begin to comprehend:
    - Basic courtesy
    - Learned elements in basic context areas
    - Recombined elements in context areas
    - Simple directions
    - Basic cultural differences among target language speakers
- Reading
  - Ability to read basic vocabulary and short phrases
  - Ability to read instructional and directional material
  - Ability to read mastered material or combinations of mastered materials for comprehension
  - Ability to understand descriptions of persons/places/things written for a wide audience
  - Ability to understand public announcements and short, straightforward instructions dealing with public life
  - Ability to identify implied cultural differ-

ences through reading

- Ability to comprehend basic idioms
- Writing
  - Ability to copy isolated words and short phrases
  - Ability to transcribe memorized words and phrases
  - Ability to write memorized words, lists and phrases
  - Ability to produce a short project demonstrating knowledge of the culture

## Level 2

- Speaking
  - Ability to ask and answer simple questions
  - Ability to function in basic survival situations
  - Ability to describe school and home life
  - Ability to describe class activities
  - Ability to describe oneself and one's abilities
- Listening
  - Ability to demonstrate understanding for simple questions and answer in present, near future and past
  - Ability to demonstrate understanding of simple conversations about familiar topics
  - Ability to follow basic directions and instructions
  - Ability to demonstrate understanding of simple announcements and reports over the media
- Reading
  - Ability to read guide books, public an-

nouncements

- Ability to read advertisements, newspapers, and magazines
- Ability to read simple notes and messages
- Ability to understand headlines from newspapers/magazines
- Ability to read simple narratives

## Level 3

- Speaking
  - Ability to express personal needs & wants
  - Ability to make comparisons & judgments
  - Ability to give instructions
  - Ability to handle daily transactions
  - Ability to discuss emotions
  - Ability to sustain brief conversation about concrete thoughts
  - Ability to offer opinions
  - Ability to make decisions
  - Ability to ask appropriate follow-up questions
  - Ability to sight read
- Listening
  - Ability to understand short conversations in a variety of verb tenses
  - Ability to understand the media in a known context
  - Ability to understand the gist of long conversations
  - Ability to follow lengthy instructions
  - Ability to understand short passages when read aloud
- Reading
  - Ability to follow instructions / recipes

- Ability to identify main ideas in simple narrative
- Ability to summarize
- Ability to hypothesize about simple narrative
- Ability to comprehend some authentic prose and poetry
- Writing
  - Ability to write about simple daily events / activities
  - Ability to describe likes & dislikes and show support
  - Ability to write social correspondence and straightforward business correspondence
  - Ability to summarize
  - Ability to write simple instructions
- Ability to identify main ideas in simple narrative beyond the immediacy of the situation
- Distinguishes between past, present and future tenses
- Takes notes on a variety of mega-topics from media
- Reading
  - Ability to read with understanding the main idea and most details of longer prose such as description, narration, short stories, news items, bibliographical information, social notices, personal correspondence, routine business letters, and technical material written for the general reader
- Written
  - Responds in writing to oral and/or written questions
  - Ability to write a well-designed essay
  - Ability to write cohesive summaries and resumes
  - Ability to communicate business needs effectively
  - Ability to express and support personal opinion on a variety of topics

#### Level 4/5

- Speaking
  - Ability to verbally communicate effectively in a wide range of situations
  - Ability to interact with native speakers in a meaningful way
  - Ability to sustain a conversation on a wide range of topics
  - Ability to narrate and describe in detail in past, present and future
  - Express preferences and support opinions
  - Discuss the significance of the geography, history and political contributions of the target culture
- Listening
  - Understands main ideas and most details of connected discourse on a variety of

# **Physical Education & Outreach Education**

## **Grade 1**

- Apply locomotor (movement) skills in games and exercises
- Develop coordination through the use of manipulatives
- Explore rhythm through singing games and simple dances
- Develop strength, balance, and flexibility in developmental gymnastics
- Learn to cooperate with peer partners and small group activities
- Develop appreciation for social values and enjoyment of participation

## **Grade 2**

- Demonstrate proficiency in performance of locomotor (movement) skills
- Build accuracy with manipulatives
- Participate in rhythmic activities and folk dances
- Apply perceptual motor concepts in developmental gymnastics
- Learn concepts of personal fitness
- Learn strategies for fair play and work cooperatively in large group / team games

## **Grade 3**

- Participate in modified team sports: Soccer, Basketball, Volleyball, and kickball
- Study human body musculature
- Develop personal fitness levels
- Demonstrate proficiency in developmental

gymnastics

- Perform in rhythmic activities
- Apply fair play and sportsmanship to games and activities

## **Grade 4**

- Participate in such team sports as: Basketball, Volleyball, and Softball
- Participate in such individual sports as: gymnastics, rhythms and fitness activities
- Participate in cooperative games in which students need to work together to succeed
- Become familiar with the basic skills through the activities and will work together to improve in these skills
- Become familiar with the use of Heart Rate Monitor
- Expose students to climbing wall activities

## **Grade 5**

- Participate in such team sports as: Soccer, Field Hockey, Basketball, Volleyball, and Softball
- Participate in such individual sports as: gymnastics, rhythms, fitness activities, tennis, bowling, golf, snow shoeing, and track and field
- Become acquainted with the basic skills of the activities and show improvement with skill development
- Demonstrate a knowledge of the terms and rules of each activity
- Become familiar with the use of Heart Rate Monitor and other technology in P.E.
- Expose students to climbing wall activities

## Grade 6

- Participate in such team sports as: Soccer, Field Hockey, Basketball, Volleyball, and Softball
- Participate in such individual sports as: gymnastics, rhythms, fitness activities, tennis, bowling, golf, snow shoeing, and track and field
- Become acquainted with the basic skills of the activities and show improvement with skill development
- Demonstrate a knowledge of the terms and rules of each activity
- Become familiar with the use of Heart Rate Monitor and other technology in P.E.
- Expose students to climbing wall activities

## Grade 7

- Participate in team activities: basketball, flag football, soccer team handball, floor hockey, lacrosse, volleyball, softball, and ultimate Frisbee
- Participate in lifetime activities: badminton, golf, tennis, bowling, and jogging
- Participate in fitness activities: plyometrics, presidential fitness test, and dance
- Understand proper ways to warm up and stretch
- Show understanding of cooperation and sportsmanship

## Grade 8

- Participate in team activities: basketball, flag football, soccer team handball, floor hockey, lacrosse, volleyball, softball, and ultimate

## Frisbee

- Participate in lifetime activities: badminton, golf, tennis, bowling, and jogging
- Participate in fitness activities: plyometrics, presidential fitness test, and dance
- Understand proper ways to warm up and stretch
- Show understanding of cooperation and sportsmanship

## High School

- Participate in team activities, such as basketball, flag football, floor hockey, lacrosse, mat ball, softball, soccer, speedball, team handball, volleyball, ultimate Frisbee
- Participate in life-time sports, such as badminton, bowling, golf, orienteering, tennis, walking and jogging
- Participate in fitness (wellness) activities, such as aerobics, dance, plyometrics, weight lifting, fitness portfolio's, tae/bo

## Project Second Step

*Second Step, a grades K-6 implemented program, is a violence prevention curriculum designed to reduce impulsive and aggressive behavior. The program was chosen by the school district to further develop it's mission statement which references cooperation with family and community and states that self-reliance and character are important components of the educational mission. The program is designed to provide opportunities for students to practice social skills and build social competence. Lead by Community Program Officer, Officer Arsenault, Second Step is designed to help not only the students, but teachers, families and classroom and school communities.*

## Home Base Advisory, Grades 7 & 8

- Assist transition from elementary to middle school
- Address the academic, social, and physical concerns of middle school students
- Enhance student interactions
- Provide counsel and support
- Foster an atmosphere of mutual respect and understanding of self and others
- Build trust among a group of diverse students
- Investigate the world of work
- Practice: goal setting, decision-making, conflict-resolution, communication and study skills

## Technology & Business

### Grade 4

#### Societal, Ethical and Human Issues

- Discuss the rules and expectations of MSS computer lab using:
  - Adult supervision
  - Email
  - Recess
  - Internet
- Practice responsible use of technology systems and software
- Describe personal consequences of inappropriate computer and / or Internet use
- Recognize correct use of copyrighted materials in multimedia products
- Identify violations of copyright law
- Basic Operations and Concepts
  - Master procedures for logging on and off the file server using both the Macintosh and Windows platform
  - Demonstrate the “Big 15” word processing skills using a word processing application different from that used in grades K-3
  - Demonstrate ability to multi-task between different programs on a computer
  - Understand differences between the Macintosh and Windows platform
- Technology Tools
  - Use spreadsheet software to create a graph of collected data
  - Use pre-selected Internet sites and online encyclopedia and periodical guide to research selected topics
  - Use Inspiration software to outline multi-

media presentation

- Capture images from the Internet to use in multimedia presentations
- Create multimedia presentation using on-line research, captured images, scanned images and other sources for audiences outside and inside of the school network

## **Keyboarding, Grades 5 & 6**

*This course is also available for 1/2 credits for grades 9-12.*

- Demonstrate proper care of equipment
- Demonstrate proper keyboarding techniques when using the alphabetic keyboard, the numeric keyboard, and the ten-key pad
- Demonstrate an acceptable level of keyboarding skills
- Proofread and edit copy
- Apply keyboarding skills to create basic school documents
- Compose simple documents

## **Note Taking and Study Skills**

- Develop the student's ability to take notes at a faster rate than he / she could in longhand
- Develop the student's ability to listen attentively
- Develop an understanding of what information should be recorded when taking notes
- Develop an ability to plan and organize effectively

## **Accounting I & Accounting II**

*These courses are Project Running Start courses. Project Running Start is an initiative offered through New*

*Hampshire Technical Institute. Students who take these courses may opt to receive college credit while earning their high school credit for a stipend of \$100.*

- Know accounting terminology
- Understand accounting concepts, principles, and practices
- Apply accounting procedures, concepts and principles to business situations

## **Small Business Management**

- Understand what a small business is and the role small businesses play in our economy.
- Identify the major classifications and types of business enterprises
- Define eight types of entrepreneurships, identify the traits and attributes associated with entrepreneurs, and give examples of business winners and losers
- Understand the advantages and disadvantages of working for oneself, and assess one's potential as a future entrepreneur
- Understand the importance of a business plan when starting a new business
- Understand sources of new enterprise ideas and the methods used in generating new enterprise ideas
- Understand the process of market segmentation and sales forecasting
- Understand the importance of location, site selection, and studying the competition at a potential site
- Understand the legal forms of ownership
- Understand the importance of financial planning and management in business
- Understand the six marketing factors
- Understand employer-employee relations

and all human resource and operations management

### **Office Management**

- Acquaint the students with personnel who will be originating jobs
- Acquaint the students with the standard forms, format, log sheets, and proofreader's marks they will be using in the real world
- Make the student proficient in the use of computer applications as they relate to the processing of words when used in the business world
- Make the student proficient in computer applications as they relate to data base when used in the business world
- Make the student proficient in computer applications as they relate to spreadsheets when used in the business world
- Make the student proficient in computer applications as they relate to desktop publishing when used in the business world
- Make the student proficient in the use of payroll procedures as they relate to different businesses

### **Introduction to Computers**

*Students must either take a semester (2 quarters) of Intro Computer or pass a proficiency test that covers all of the following. Most students will take one quarter of Intro Computer, then pass the test.*

- Develop proficient use of Microsoft Word word processing software, including
  - Header/Footer feature
  - Search and replace feature, and others

- Develop proficient use of Microsoft Excel as a database, including
  - Sorting
  - Filtering
  - Subtotals
- Develop proficient use of Microsoft Excel as a spreadsheet, including
  - Basic formulas, including Sum, Average
  - Graphing data and labeling the parts
  - Simple uses of the If statement
- Learn basic use of Adobe Illustrator software for drawing
- Develop ability to search the internet

### **Desktop Publishing**

- Learn to identify a number of common fonts
- Develop design sense using CRAP: Consistency, Repetition, Alignment, and Proximity
- Develop strong proficiency with Adobe InDesign software for page layout
- Learn basic use of Adobe Illustrator software for drawing
- Learn basic use of Adobe Photoshop software for manipulating images

### **Programming I & Programming II**

- Develop proficient use of the Pascal language for computer programming
- Learn to draw and move objects on screen through use of Pascal
- Plan and implement a simple "paint" program in Pascal, written entirely from scratch
- In Programming II, continue to develop programming proficiency through independent projects

## Yearbook

- Plan and lay out the *Hoptonian*, the Hopkinton High School yearbook, including all inside pages, cover, etc.
- Develop strong proficiency with Adobe InDesign software for page layout
- Manage all business aspects of the yearbook
- Interface with commercial printer and meet (or miss) real-world deadlines

## Fine & Performing Arts

### Grade 1

#### Art

- Work with color
- Draw variations of figures and portrait
- Use symbols and repetition
- Work in 3-D
- Combine Materials

#### Music

- Build a love and appreciation for music
- Sing in tune, in a group and solo
- Recognize music notations, clap the beat, and patterns
- Develop listening skills
- Dance and move to music
- Use simple instruments as accompaniment

### Grade 2

#### Art

- Work realistically with color
- Draw figures and portraits with detail
- Draw pictures to include background and foreground
- Begin blending color

#### Music

- Build a love for and an appreciation for music
- Sing in tune, in a group and solo
- Recognize music rhythm and clap to the beat
- Identify notes
- Develop listening and movement skills

- Dance to music
- Explore co-curricular activities
- Use instruments for accompaniment

### Grade 3

#### Art

- Draw items in proportion
- Use positive and negative space
- Draw to show action
- Show a mastery of fine motor skills
- Develop awareness of composition

#### Music

- Build a love and appreciation of music
- Sing and play instruments
- Identify notes
- Follow simple rhythmic patterns
- Sing and chant for fun
- Use instruments as accompaniment

### Grade 4

#### Art

- Develop a creative / learning process with hands-on activities in the following areas:
  - Rocks and minerals
  - Oceans and undersea life
  - Eastern Woodlands Native Americans
  - Colonial arts and crafts
  - Skill building and exploration of various media and related techniques

#### Music

- Understand music theory
- Be able to compose short pieces within specific guidelines

- Be able to describe and outline music form in an aural example using correct terminology and labeling

### Maple Street School Chorus

- Perform alone or with a group of varied repertoire of music
- Perform, using the voice, with expression, technical accuracy, correct posture, and control
- Perform at public concerts in front of an audience
- Be encouraged to continue music education

### Grade 5

#### Art

- Students will be creative and explore the following areas with artistic expression:
  - Raptors, space, wolves, industrial revolution (mills), light, color, North – west, Southwest, and Plains Native Americans, and language arts
- Skill building and exploration of various media and related techniques

#### Music

- Be able to identify the instruments of the woodwind, brass, string and percussion sections
- Be able to identify distinguishing characteristics unique to Baroque, Classical and Romantic music
- Be able to identify distinguishing characteristics unique to the music of Bach,

Beethoven and Mozart

- Describe music events in given aural examples using appropriate terminology

## Grade 6

### Art

- Students will be creative and explore the following areas with artistic expression:
  - Layout and graphic design; use of grid-ding system for enlarging
  - Arts of world cultures: Canada (Inuit), Mexico, South and Central America, Language Arts
  - Trees – drawing techniques
  - Skill building and exploration of various media and related techniques

### Music

- Identify and discuss the distinguishing elements of jazz music
- Understand the history of jazz for 1900-2001
- Identify major jazz styles
- Analyze a jazz performance using appropriate terminology
- Recognize the cultural, social, and musical role that the Beatles played from 1960-1980
- Demonstrate the knowledge of the history of the Beatles compositions
- Work in small groups to research, analyze, and outline the life and work of a musician of their choice and present their work as a written biography

## Grade 7

### Art

- Demonstrate understanding of basic composition skills
- Learn skills used in drawing and sculpting highly detailed subjects
- Explore the effects of light in drawing
- Demonstrate understanding of one-point perspective
- Develop intermediate skills in handbuilt ceramics
- Become familiar with web resources in art
- Increase skills in using tools for specific two- and three-dimensional media, and increase familiarity with the physical properties of specific media
- Relate art concepts to examples of historically significant art
- Begin to evaluate and contribute to the effectiveness of art exhibits
- Understand the value and potential of collaboration in art

### Drama

- Students will create characters, environments and situations for class dramatizations
- Improvise dialogue to tell stories
- Write simple scripts
- Use different movement, vocal pitch, tempo and tone for different characters
- Analyze scripted scenes for technical requirements
- Work collaboratively and safely
- Explore the uses of the stage to enhance dramatic value
- Incorporate elements of movement, music,

- and visual arts to express ideas and emotions in improvised and scripted scenes
- Describe the value and significance of theatre in their daily lives
  - Identify performances and production related careers in theatre arts

### **Middle School Band**

- Rhythms: meters, compound & simple, time signatures
- Terms and signs – musical elements, arrangements, compositions, Italian tempo and dynamic markings
- Excellerators: drills specifically designed for technique
- Music Enrichments – theory, scales, chords, conducting
- History – geography, time periods, genres, composers
- Theory – intervals, key signatures, enharmonics, composition

### **Middle School Jazz Band**

- Students are introduced to the elements of jazz, playing styles, rhythms, and history. Auditions are required.

### **Grade 8**

#### **Art**

- Demonstrate understanding of basic color theory
- Enhance compositional skills through drawing from life and from imagination
- Research a historically significant artist in depth and reproduce one example of his/her

#### **art**

- Enhance skills unique to printmaking through creation of large multiple prints
- Continue to develop ceramic skills
- Continue to increase familiarity and skill in various studio media and techniques
- Continue to access web resources that enhance art education

#### **Music**

- Learn basic guitar
- Demonstrate sensitivity to the aesthetic qualities of the music performed or heard
- Feel enjoyment and satisfaction in creating original musical ideas
- Experience enjoyment and satisfaction in performing music in both formal and informal settings

### **High School Music**

#### **Band**

- Demonstrate a knowledge of music notation, major and minor scales and arpeggios
- Demonstrate and discuss the historical and cultural background of the works performed
- Analyze the works performed in terms of the elements of music
- Describe the forms and structures of the works being rehearsed
- Evaluate the quality of performances by instrumental ensembles
- Promote and encourage private study with a qualified teacher

## High School Art

- Develop and demonstrate improvisational skills

### Chorus

- Demonstrate a knowledge of music notation and symbols
- Demonstrate and discuss the historical and cultural background of the works performed
- Analyze the works sung by the ensemble in terms of the elements of music
- Describe the forms and structures of the works being rehearsed
- Evaluate the quality of performances by the choral ensemble
- Prepare to rehearse group as the conductor
- Develop improvisational skills in jazz medium

### Steel Band

- Demonstrate a knowledge of music notation
- Demonstrate and discuss the historical and cultural background of the works performed
- Analyze the works performed in terms of the elements of music
- Evaluate the quality of the performances of the group
- Demonstrate an understanding of another culture's music through arranging skills
- Develop improvisational skills
- Understand the importance of chord structure in steel pan

### Drawing

- Ellipses
- Blending Shading
- Two-point perspective
- Abrupt edge shading
- Contour drawing
- Still-life drawing
- Landscape
- Portraiture
- Weekly art history presentations

### Design

- Skyscraper reading
- Toothpick tower
- Glider or propeller plane
- Egg dropper
- Font selection
- Color psychology
- CD or tape box redesign
- Board game designs
- T-shirt design
- Airbrush techniques
- Interior design
- Furniture design
- Architectural model making

### Ceramics

- Kneading and clay preparation
- Asian art history
- Coil and decorative pots
- Textured cylinder slab containers
- Textured square slab containers

- Non-western inspired ceramics
- Wheel thrown containers
- Standard glazing applications
- Drip glazing techniques

### **Photography**

- Pinhole cameras
- Camera operations
- Composition and depth of field effects
- Light metering and shooting
- Action panning
- Film development
- Contact sheets
- Lighting, point of view, and cropping
- Burning and dodging
- Spotting and matting
- Portraiture
- Photography history

### **Sculpture**

- Representational additive relief
- Representational reductive carving
- Clay portraiture
- Site-specific abstraction
- Research/installation project
- Ceramic color application

### **Drawing in Color**

- Isolation window
- Ideal or sculptural shading
- Tonal studies
- Atmospheric perspective
- Color temperature
- Reflected color
- Optical color mixing

### **Painting**

- Tonal wash studies
- Corner brush strokes
- Warm/cool watercolors
- Acrylic underpainting
  - Complimentary colors
  - Triad colors
- Pallett knife techniques
- Art history presentations
- Research/technique project

### **Advanced Art**

- Printmaking
- Elements of composition
- Mixed media still-life
- Color temperature theory
- Acrylic painting techniques
- Self-designed projects

### **High School Drama**

#### **Theatre Arts**

- Construct imaginative scripts using different playwriting forms and techniques
- Analyze the physical, emotional and social dimensions of characters found in the texts from various genres
- Demonstrate artistic discipline in rehearsal and performance
- Explain the basic principles of technical theatre
- Design and implement coherent stage management, promotional and business plans
- Use techniques of staging and blocking

to achieve different effects and to convey meaning

- Conduct auditions, cast actors, direct scenes and organize production meetings to achieve production goals
- Identify and research cultural, historical and symbolic clues in dramatic texts
- Create and solve interdisciplinary problems using theatre
- Integrate several art forms and/or media in theatre
- Analyze and critique dramatic performances, considering context and suggesting alternative artistic choices
- Constructively evaluate their own and other's collaborative efforts and artistic choices
- Discuss how theatre can reveal universal concepts
- Analyze the effect of their own cultural experiences on their dramatic work
- Research and describe career options as they relate to performance, production and communication

## **Pre-Engineering**

### **Grade 7**

- Participate in discussions on technology and how it effects our daily lives
- Communicate, using various mediums, thoughts and feelings about technology
- Accurately use precision measuring tools to describe the size and shape of various objects
- Produce working drawings of 3D solid models
- Assemble solid 3D component parts into assemblies on the computer
- Develop skills to manage information on computers

### **Grade 8**

- Locate and utilize a range of printed, electronic, and human information to obtain ideas
- Demonstrate technological knowledge and skills of design to construct, use, and evaluate products and systems to satisfy human and environmental needs
- Consider constraints and generate several ideas for alternative solutions, using group and individual ideation techniques
- Develop plans including measured sketches and drawings to solve a design problem
- Construct a working model from recycled materials
- Test and evaluate design solutions
- Demonstrate an understanding of the design process and its relationship to products that

are used in everyday life

### **Project Lead the Way (PLTW), Intro to Engineering Design**

- To introduce students to basic computer aided design techniques and standards
- Develop a basic understanding of 3D solids
- Produce design drawings from 3D solids and print them for evaluation
- Identify, research, and make a PowerPoint presentation about an engineering related topic
- Study the design process and how it relates to product development
- Become familiar with the social aspects of the working environment
- Define ethical solutions to design problems
- Work as a member of a team to accomplish a specific engineering tasks
- Given a set of criteria produce a design notebook
- Explore careers in engineering
- Utilize the computer as a design tool and a way of communicating thoughts, ideas, and solutions to design problems

### **PLTW, Principles of Engineering**

- Introduce students to advanced computer aided design techniques and standards
- Develop an advanced understanding of 3D solids
- Produce design drawings from 3D solids and print them for evaluation
- Identify, research, and make a PowerPoint presentation about an engineering related topic

- Study the design process and how it relates to product development
- Become familiar with the social aspects of the working environment
- Define ethical solutions to design problems
- Work as a member of a team to accomplish a specific engineering tasks
- Given a set of criteria produce a design notebook
- Explore careers in engineering
- Visit engineering and manufacturing locations
- Utilize the computer as a design tool and a way of communicating thoughts, ideas and solutions to design problems

### **PLTW, Digital Electronics**

- Analog and Digital Fundamentals
- Number systems and binary addition
- Gates
- Digital logic specifications and families
- Boolean Algebra and subtractors
- Flip-flops, multivibrators, and one shots
- Counters and displays
- Decoders, multiplexers and demultiplexers
- Shift registers
- D-A and A-D conversation
- Tri-state gates
- Circuit design and fabrication

### **PLTW, Computer-Integrated Manufacturing**

- Work safely in a manufacturing environment
- Build on knowledge and skills obtained in fundamental PLTW courses

- Study the process of design and production
- Apply the principles of robotics and automation
- Design relative to constraints of materials, manufacturing processes, and available equipment
- Program, set up, and operate CNC machinery
- Understand the concept of handshaking of machine controllers
- Explore careers in manufacturing
- Design and model a production process
- Apply strategies of quality control

### **PLTW, Engineering Design & Development**

- Apply techniques of engineering research and design to construct a solution to an open-ended engineering problem
- Document the design and implementation of a design solution
- Integrate with community mentors and/or resources
- Develop professional communication and presentation skills
- Practice positive peer review
- Learn to be resourceful
- Apply principles gained from preceding and related courses

## **Wood Technology**

### **Grade 7**

- Apply safe and efficient use of tools, materials, machines, processes and technical concepts
- Develop self-concept through a recognition of one's skills, creative abilities, and individual potential in technology
- Develop individual responsibility and learn how to plan and work safely
- Demonstrate the safe use of required power equipment
- Identify careers in the field of wood technology
- Develop problem-solving and decision-making skills involving material resources, processes and technological systems
- Demonstrate ability in areas of wood technology: measurement, layout, joinery, fastening, finishing
- Develop problem-solving and creative abilities involving materials, processes, and products of technology

### **Grade 8**

- Apply safe and efficient use of tools, materials, machines, processes and technical concepts
- Develop self-concept through a recognition of one's skills, creative abilities, and individual potential in technology
- Develop individual responsibility and learn how to plan and work safely
- Demonstrate the safe use of required power

equipment

- Identify careers in the field of wood technology
- Develop problem-solving and decision-making skills involving material resources, processes and technological systems
- Demonstrate ability in areas of wood technology: measurement, layout, joinery, fastening, finishing
- Develop problem-solving and creative abilities involving materials, processes, and products of technology

### **Wood Technology I and Wood Technology II**

- Apply safe and efficient use of tools, materials, machines, processes and technical concepts
- Develop self-concept through a recognition of one's skills, creative abilities, and individual potential in technology
- Develop individual responsibility and learn how to plan and work safely
- Demonstrate the safe use of required power equipment
- Identify careers in the field of wood technology
- Develop problem-solving and decision-making skills involving material resources, processes and technological systems
- Demonstrate ability in areas of wood technology: measurement, layout, joinery, fastening, finishing

### **Advanced Wood Technology**

- Apply safe and efficient applications of tools, materials, machines, processes, and technical concepts
- Develop recognition of their skills, creative abilities, positive self concepts, and individual potential technology
- Develop an understanding of individual responsibility, and learn how to plan and work safely
- Demonstrate the safe use of required power tools and equipment
- Identify careers in the field of wood technology
- Develop problem-solving and decision-making abilities involving material resources, processes, and technological systems
- Demonstrate ability in the various areas of Wood Technology: measurement and layout, joinery, fastening, and finishing
- Develop problem-solving and creative abilities involving materials, processes, and products of technology
- Evaluate manufacturing systems and their impact on people, the environment, culture, and economy
- Plan, schedule, manage, and evaluate a manufacturing activity or project using identified problem solving techniques
- Identify and investigate various types of manufacturing technology systems
- Identify and describe emerging technology in the manufacturing field

## **Lathe Turning**

- Apply safe and efficient application of tools, materials, machines, processes, and technical concepts
- Develop a recognition of their skills, creative abilities, positive self concepts, and individual potential in technology
- Develop an understanding of individual responsibility, and learn how to plan and work safely
- Demonstrate the safe use of required power tools and equipment
- Identify careers in the field of Wood Technology
- Develop problem-solving and decision-making abilities involving material resources, processes, and technological systems
- Demonstrate ability in the various areas of Wood Technology: measurement and layout, turning techniques, fastening, and finishing
- Develop problem-solving and creative abilities involving materials, processes, and products of technology

## **Family & Consumer Sciences**

### **Grade 7**

- Identify potential safety hazards in the kitchen
- Demonstrate appropriate safety and sanitation practices
- Demonstrate proper measuring techniques of dry, solid, and liquid ingredients
- Identify all kitchen equipment by name and function
- Apply the information in the food guide to their own dietary intake
- Identify foods by food group
- List the six basic nutrients and explain the function of each in the body
- Identify nutrients in classroom-prepared foods
- Follow steps in a recipe
- Work cooperatively in small groups for food preparation
- Avoid food contamination, cross-contamination, and food-borne illness

### **Grade 8**

- Compare/contrast nutritional information
- Identify potential safety hazards and demonstrate good safety practices in the sewing room
- Identify each piece of equipment by name and function
- Identify all parts of the sewing machine by name and function
- Demonstrate proper threading of the bobbin and sewing machine

- Demonstrate proper pinning/cutting of a sewing machine project
- Create a finished sewing project
- Demonstrate how to operate a washing machine
- Identify potential safety hazards and demonstrate good safety practices in the kitchen
- Show proper measuring techniques for liquids/solids
- Draw and label the Food Pyramid with name of each group, number of daily servings needed, and examples
- List the Seven Dietary Guidelines for Americans and explain each
- Create a well-balanced, nutritious breakfast, lunch, dinner menu
- Read and analyze the new food label, “Nutrition Facts”

### **Food Rules!**

- Apply kitchen management skills
- Identify and explain the appropriate use and care of selected kitchen equipment and appliances
- Explain the basic principles, and observe safety guidelines, of cooking with microwaves
- Identify abbreviations, food-measurement terminology, techniques and equivalents and apply these in calculating recipe adjustments
- Demonstrate appropriate measuring techniques
- Apply basic food-preparation terminology
- Demonstrate kitchen safety and sanitation techniques to prevent accidents and food-borne illnesses

- Apply dietary guidelines and current USDA food guide to their own food intake
- Identify sources and functions of the macro- and micro-nutrients, and apply appropriate food preparation techniques to preserve the quality of these nutrients
- Understand the health concerns of fats in the diet
- Demonstrate preparation techniques for soups, pasta dishes, egg and cheese dishes, and some baked goods

### **Culinary Arts**

- Plan meals following current dietary guidelines and food guide for self and family across the life span
- Understand health needs and concerns related to nutrition throughout the life cycle
- Plan, prepare, and evaluate aesthetically pleasing meals
- Practice consumer skills related to food
- Read and interpret food labels
- Demonstrate food preparation techniques for bakery food production, high protein foods, stocks, soups, and sauces, starch products, fruits, and vegetables
- Demonstrate appropriate food handler safety and sanitation procedures
- Identify and practice the basic concepts of food production
- Demonstrate *mise en place* and clean-up
- Apply knowledge of equivalents and substitutions in recipe adjustments and cost calculations
- Demonstrate presentation using principles and elements of design in table-setting, gar-

- nishing, plate, and tray presentation
- Become familiar with various careers in food service

### **Fiber Arts**

- Create fabric using knitting, weaving, felting, crochet
- Apply design theory to such things as handmade yardage, garments, fabric/fiber structures
- Apply various decorative techniques, such as embossing, dying, painting, patchwork to yardage or end-use constructs
- Use the sewing machine and interpret patterns to create both knitted and sewn garments or other end-use constructs, of wovens and knits
- Explore historic and cultural roots of world textiles and textile arts
- Identify characteristics of various natural and man-made fibers

### **Career Pathways**

- Relate personal values, goals, needs, and wants to future career decisions
- Relate personal skills, aptitudes, and interests to future career decisions
- Locate, evaluate, and interpret career information in order to effectively explore their own career options
- Explore alternatives to traditional career pathways
- Explore at least two career clusters using a number of resources
- Design a school-to-career action plan to be

evaluated and updated throughout their high school years

- Develop skills to seek, obtain, manage, and change jobs
- Become knowledgeable about the world of work

### **On My Own**

- Understand their role as a consumer
- Explain the role of the consumer in the economic system
- Explain the importance of the decision-making process in making personal and family consumer choices
- Identify types of consumer problems and how to deal with them
- Identify consumer rights and responsibilities
- Develop criteria for evaluating advertising
- Select a career, calculate anticipated earnings, and identify financial concerns that relate to that career selection
- Analyze personal and family spending habits
- Develop skills needed to design a budget
- Evaluate financial tools and institutions for personal and family financial management needs
- Explain how investments work and develop a hypothetical investment plan
- Understand the role of credit in consumer economics, and standard credit types and terms
- Understand the role of insurance, and the various types used by individuals and families
- Identify factors related to personal and family transportation and housing needs

- Understand the function of taxes, the various types, and how to file
- Obtain, interpret, and understand basic consumer health information for personal and family wellness across the lifespan

