



Charter Schools Institute
State University of New York

BUFFALO UNITED CHARTER SCHOOL

FINAL CHARTERED AGREEMENT
Section 2852(5) Submission to the Board of Regents

Volume 5 of 9

REDACTED APPLICATION

BLOOM'S TAXONOMY FOURTH GRADE

Based on *Bloom's Taxonomy*—Developed by
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QUICK QUESTIONS FOR CRITICAL THINKING



Introduction

Bloom's Taxonomy divides the way people learn into three domains. One of these is the *cognitive* domain which emphasizes intellectual outcomes. This domain further divides into categories which are arranged progressively from the lowest level of thinking, simple recall, to the highest, evaluating information.

Quick Questions for Critical Thinking can be used in the home, classroom or workplace to develop all levels of thinking within the cognitive domain. The results will be improved attention to detail, increased comprehension and expanded problem solving skills. Find the box containing the level you wish to challenge. Use the **Key Words** as guides to structuring questions and tasks. Finish the **Questions** with content appropriate to the learner.

Level I

Knowledge: Exhibit memory of previously-learned material by recalling facts, terms, basic concepts and answers.

Key Words: who what why when omit where which
 choose find how define label show spell
 list match name relate tell recall select

Questions:

* What is ... ?	* How is ... ?
* Where is ... ?	* When did _____ happen?
* How did _____ happen?	* How would you explain ... ?
* Why did ... ?	* How would you describe ... ?
* When did ... ?	* Can you recall ... ?
* How would you show ... ?	* Can you select ... ?
* Who were the main ... ?	* Can you list the three ... ?
* Which one ... ?	* Who was ... ?

Level I - Knowledge

Level II

Comprehension: Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions and stating main ideas.

Key Words:

compare	contrast	demonstrate	interpret	explain
extend	illustrate	infer	outline	relate
rephrase	translate	summarize	show	classify

Questions:

- * How would you classify the type of ... ?
- * How would you compare ... ? contrast ... ?
- * Will you state or interpret in your own words ... ?
- * How would you rephrase the meaning ... ?
- * What facts or ideas show ... ?
- * What is the main idea of ... ?
- * Which statements support ... ?
- * Can you explain what is happening ... ? what is meant ... ?
- * What can you say about ... ?
- * Which is the best answer ... ?
- * How would you summarize ... ?

Level II - Comprehension**Level III**

Application: Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.

Key Words:

apply	build	choose
construct	develop	interview
make use of	organize	experiment with
plan	select	solve
utilize	model	identify

Questions:

- * How would you use ... ?
- * What examples can you find to ... ?
- * How would you solve _____ using what you've learned ... ?
- * How would you organize _____ to show ... ?
- * How would you show your understanding of ... ?
- * What approach would you use to ... ?
- * How would you apply what you learned to develop ... ?
- * What other way would you plan to ... ?
- * What would result if ... ?
- * Can you make use of the facts to ... ?
- * What elements would you choose to change ... ?
- * What facts would you select to show ... ?
- * What questions would you ask in an interview with ... ?

Level III - Application

Level IV

Analysis: Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations.

Key Words:	analyze	categorize	classify
	compare	contrast	discover
	dissect	divide	examine
	inspect	simplify	survey
	take part in	test for	distinguish
	list	distinction	theme
	relationships	function	motive
	inference	assumption	conclusion

Questions:

- * What are the parts or features of ... ?
- * How is _____ related to ... ?
- * Why do you think ... ?
- * What is the theme ... ?
- * What motive is there ... ?
- * Can you list the parts ... ?
- * What inference can you make ... ?
- * What conclusions can you draw ... ?
- * How would you classify ... ?
- * How would you categorize ... ?
- * Can you identify the different parts ... ?
- * What evidence can you find ... ?
- * What is the relationship between ... ?
- * Can you make a distinction between ... ?
- * What is the function of ... ?
- * What ideas justify ... ?

Level IV - Analysis

Level V

Synthesis: Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions.

Key Words:	build	choose	combine
	compile	compose	construct
	create	design	develop
	estimate	formulate	imagine
	invent	make up	originate
	plan	predict	propose
	solve	solution	suppose
	discuss	modify	change
	original	improve	adapt
	minimize	maximize	delete
	theorize	elaborate	test
	improve	happen	change

- Questions:**
- * What changes would you make to solve ... ?
 - * How would you improve ... ?
 - * What would happen if ... ?
 - * Can you elaborate on the reason ... ?
 - * Can you propose an alternative ... ?
 - * Can you invent ... ?
 - * How would you adapt _____ to create a different ... ?
 - * How could you change (modify) the plot (plan) ... ?
 - * What could be done to minimize (maximize) ... ?
 - * What way would you design ... ?
 - * What could be combined to improve (change) ... ?
 - * Suppose you could _____ what would you do ... ?
 - * How would you test ... ?
 - * Can you formulate a theory for ... ?
 - * Can you predict the outcome if ... ?
 - * How would you estimate the results for ... ?
 - * What facts can you compile ... ?
 - * Can you construct a model that would change ... ?
 - * Can you think of an original way for the ... ?

Level V - Synthesis

Level VI

Evaluation: Present and defend opinions by making judgments about information, validity of ideas or quality of work based on a set of criteria.

Key Words:

award	choose	conclude
criticize	decide	defend
determine	dispute	evaluate
judge	justify	measure
compare	mark	rate
recommend	rule on	select
agree	appraise	prioritize
opinion	interpret	explain
support	importance	criteria
prove	disprove	assess
influence	perceive	value
estimate	influence	deduct

Questions:

- * Do you agree with the action ... ? with the outcome ... ?
- * What is your opinion of ... ?
- * How would you prove ... ? disprove ... ?
- * Can you assess the value or importance of ... ?
- * Would it be better if ... ?
- * Why did they (the character) choose ... ?
- * What would you recommend ... ?
- * How would you rate the ... ?
- * What would you cite to defend the actions ... ?
- * How would you evaluate ... ?
- * How could you determine ... ?
- * What choice would you have made ... ?
- * What would you select ... ?
- * How would you prioritize ... ?
- * What judgment would you make about ... ?
- * Based on what you know, how would you explain ... ?
- * What information would you use to support the view ... ?
- * How would you justify ... ?
- * What data was used to make the conclusion ... ?
- * Why was it better that ... ?
- * How would you prioritize the facts ... ?
- * How would you compare the ideas ... ? people ... ?

Level VI - Evaluation

**LANGUAGE ARTS
FOURTH GRADE
Reading and Grammar**

Content Standards and Objectives

**Scheduled Suggestions for
Open Court Reading**

Open Court Assessment Overview

Open Court Assessment/Monitoring

Instructional Collection

NHA Library Media Centers

The Shurley Method

Why The Shurley Method?

The Shurley Method Assessment



I. MEANING AND COMMUNICATION

Content Standard 1: All students will read and comprehend general and technical material.

Objective	Lessons		
	Open Court	Core Knldg	Shurley Method
1. Use reading for multiple purposes, such as enjoyment, gathering information, learning new procedures, and increasing conceptual understanding.	X	X	
2. Read with developing fluency a variety of texts, such as short stories, novels, poetry, textbooks, menus, periodicals and reference materials.	X	X	
3. Employ multiple strategies to construct meaning, including the use of sentence structure, vocabulary skills, context clues, text structure, mapping, predicting, retelling, and generating questions.	X	X	X
4. Employ multiple strategies to recognize words as they construct meaning, including the use of phonics, syllabication, spelling patterns, and context clues.	X		X
5. Respond to oral, visual, written, and electronic texts, and compare their responses to those of their peers.			

Content Standard 2: All students will demonstrate the ability to write clear and grammatically correct sentences, paragraphs, and compositions.

Objective	Lessons		
	Open Court	Core Knldg	Shurley Method
1. Write fluently for multiple purposes to produce compositions, such as stories, reports, letters, plays, and explanations of processes.	X		
2. Recognize and use authors' techniques in composing their own texts. Examples include effective introductions and conclusions, different points of view, grammatical structure, and appropriate organization.	X		X
3. Plan and draft texts, and revise and edit in response to suggestions expressed by others about such aspects as ideas, organization, style and word choice.	X		X
4. Identify multiple language conventions and use them when editing text. Examples include recognition of nouns, verbs, and modifiers, capitalization rules, punctuation marks, and spelling.	X		X

Content Standard 3: All students will focus on meaning and communication as they listen, speak, view, read, and write in personal, social, occupational, and civic contexts.

Objective	Lessons		
	Open Court	Core Knldg	Shurley Method
1. Integrate listening, speaking, viewing, reading, and writing skills for multiple purposes and in varied contexts. An example is using all the language arts to prepare and present a unit project on a selected state or country.	X	X	

2. Analyze the impact of variables on components of the communication process. Examples include the impact of background noise on an oral message and the effect of text errors, such as spelling or grammar, on the receiver.	X		X
3. Read and write fluently, speak confidently, listen and interact appropriately, view knowledgeably, and represent creatively. Examples include exploring ideas in a group, interviewing family and friends, and explaining ideas represented in pictures.	X		
4. Distinguish between verbal and nonverbal communication and identify and practice elements of effective listening and speaking. Examples include recognizing the impact of variations of facial expression, posture, and volume on oral communication.	X		
5. Employ multiple strategies to construct meaning while reading, listening to, viewing, or creating texts. Examples include summarizing, predicting, generating questions, mapping, examining picture cues, analyzing word structure and sentence structure, discussing with peers, and using context and text structure.	X		X
6. Determine the meaning of unfamiliar words and concepts in oral, visual, and written texts by using a variety of resources, such as prior knowledge, context, glossaries, and electronic sources.	X		X
7. Recognize and use texts as models and employ varied techniques to construct text, convey meaning, and express feelings to influence an audience. Examples include effective introductions and conclusions, different points of view, and rich descriptions.	X		
8. Express their responses to oral, visual, written, and electronic texts, and compare their responses to those of others.	X		X

II. LANGUAGE

Content Standard 4: All students will use the English language effectively.

Objective	Lessons		
	Open Court	Core Knidg	Shurley Method
1. Describe language patterns used in their spoken, written, and visual communication contexts, such as school, neighborhood, sports, children's periodicals, and hobbies.	X		X
2. Describe how features of English, such as language patterns and spelling, vary over time and from place to place and how they affect meaning in formal and informal situations. An example is exploring regional language variations in the United States.	X		X
3. Begin to recognize how words and phrases relate to their origin. Examples include surnames and names of bodies of water or landmarks.	X	X	X
4. Explore how words normally considered synonyms can carry different connotations when used in a variety of spoken and written texts.	X		X
5. Recognize and use language appropriate for varied contexts and purposes. Examples include community building, mathematics class, team sports, friendly and formal letters or invitations, requests for information, interviews with adults, and significant discussions.		X	

Later Elementary Language Arts Standards and Grade Level Benchmarks

III. LITERATURE

Content Standard 5: All students will read and analyze a wide variety of classic and contemporary literature and other texts to seek information, ideas, enjoyment, and understanding of their individuality, our common heritage and common humanity, and the rich diversity in our society.

Objective	Lessons		
	Open Court	Core Knldg	Shurley Method
1. Select, read, listen to, view, and respond thoughtfully to both classic and contemporary texts recognized for quality and literary merit.	X	X	
2. Describe and discuss the shared human experiences depicted in literature and other texts from around the world. Examples include birth, death, heroism, and love.	X	X	
3. Demonstrate awareness that characters and communities in literature and other texts reflect life by portraying both positive and negative images.	X	X	
4. Describe how various cultures and our common heritage are represented in literature and other texts.	X	X	
5. Describe how characters in literature and other texts form opinions about one another in ways that can be fair and unfair.	X	X	

IV. VOICE

Content Standard 6: All students will learn to communicate information accurately and effectively and demonstrate their expressive abilities by creating oral, written, and visual texts that enlighten and engage an audience.

Objective	Lessons		
	Open Court	Core Knldg	Shurley Method
1. Practice using elements of effective communication to enhance their relationships in their schools and communities. Examples include use of enunciation of terms, use of humor, and use of emphasis.	X	X	X
2. Explain the importance of developing confidence and a unique presence or voice in their own oral and written communication.	X	X	
3. Identify the style and characteristics of individual authors, speakers and illustrators and how they shape text and influence their audiences' expectations.	X	X	
4. Reveal personal voice by explaining growth in learning and accomplishment through their selection of materials for different purposes and audiences. Examples include portfolios, displays, literacy interviews, and submissions for publications.	X		

V. SKILLS AND PROCESSES

Content Standard 7: All students will demonstrate, analyze, and reflect upon the skills and processes used to communicate through listening, speaking, viewing, reading, and writing.

Objective	Lessons		
	Open Court	Core Knldg	Shurley Method
1. Use a combination of strategies when encountering unfamiliar texts while constructing meaning. Examples include retelling, predicting, generating questions, mapping, examining pictures cues, analyzing word structure, discussing with peers, analyzing phonetically, and using context and text structure.	X		
2. Monitor their progress while using a variety of strategies to overcome difficulties when constructing and conveying meaning.	X	X	

Later Elementary Language Arts Standards and Grade Level Benchmarks

3. Apply new learning by forming questions and setting learning goals that will aid in self-regulation and reflection on their developing literacy.	X		
4. Develop and use a variety of strategies for planning, drafting, revising, and editing different forms of text for specific purposes. Examples include brainstorming, revising with peers, sensitivity to audience, and strategies appropriate for purposes, such as informing, persuading, entertaining and inspiring.	X		

VI. GENRE AND CRAFT OF LANGUAGE

Content Standard 8: All students will explore and use the characteristics of different types of texts, aesthetic elements, and mechanics – including text structure, figurative and descriptive language, spelling, punctuation, and grammar – to construct and convey meaning.

Objective	Lessons		
	Open Court	Core Knldg	Shurley Method
1. Identify and use mechanics that enhance and clarify understanding. Examples include sentence structure, paragraphing, appropriate punctuation, grammatical constructions, conventional spelling, and relating in sequence an account of an oral or visual experience.	X		X
2. Identify and use elements of various narrative genre and story elements to convey ideas and perspectives. Examples include theme, plot, conflict, and characterization in poetry, drama, story telling, historical fiction, mystery and fantasy.	X	X	
3. Identify and use characteristics of various informational genre (e.g., periodicals, public television programs, textbooks, and encyclopedias) and elements of expository text structure (e.g., organizational patterns, supporting details, and major ideas) to convey ideas.	X	X	
4. Identify and use aspects of the craft of the speaker, writer, and illustrator to formulate and express their ideas artistically. Examples include intonation, hues, design, perspective, dialogue, characterization, metaphor, simile, and points of view.	X		
5. Describe and use the characteristics of various oral, visual, and written texts (e.g., films, library databases, atlases, and speeches) and the textual aids they employ (e.g., footnotes, menus, addresses, graphs, and figures) to convey meaning.	X		

VII. DEPTH OF UNDERSTANDING

Content Standard 9: All students will demonstrate understanding of the complexity of enduring issues and recurring problems by making connections and generating themes within and across texts.

Objective	Lessons		
	Open Court	Core Knldg	Shurley Method
1. Explore and reflect on universal themes and substantive issues from oral, visual, and written texts. Examples include exploration, discovery, and formation of personal relationships.	X		

2. Draw parallels and contrasts among key ideas, concepts, and varied perspectives found in multiple texts.	X		
3. Use conclusions based on their understanding of differing views presented in text to support a position.	X		

VII. IDEAS IN ACTION

Content Standard 10: All students will apply knowledge , ideas, and issues drawn from texts to their lives and the lives of others.

Objective	Lessons		
	Open Court	Core Knldg	Shurley Method
1. Identify how their own experiences influence their understanding of key ideas in literature and other texts.	X	X	
2. Combine skills to reveal their strengthening literacy. Examples include writing and illustrating a text, reading and then orally analyzing a text, and listening to and then summarizing a presentation.	X	X	
3. Use oral, written, and visual texts to research how individuals have had an impact on people in their community and their nation. Examples include creating texts to inform others about school or community issues or problems.	X	X	

VIII. INQUIRY AND RESEARCH

Content Standard 11: All students will define and investigate important issues and problems using a variety of resources, including technology, to explore and create texts.

Objective	Lessons		
	Open Court	Core Knldg	Shurley Method
1. Generate questions about important issues that affect them or topics about which they are curious, and use discussion to narrow questions for further research.	X	X	
2. Identify and use resources that are most useful and most readily available for the particular questions or topics they wish to investigate. Examples include knowledgeable people, field trips, tables of contents, indexes, glossaries, icons/headings, hypertext, storage addresses, CD-ROM/laser disks, electronic mail, and library catalogue databases.			
3. Organize and analyze information to draw conclusions and implications based on their investigation of an issue or problem.	X	X	
4. Using multiple media, develop and present a short presentation to communicate conclusions based on the investigation of an issue or problem. Examples include charts, posters, transparencies, audio tapes, videos, and diagrams.			

IX. CRITICAL STANDARDS

Content Standard 12: All students will develop and apply personal, shared, and academic criteria for the enjoyment, appreciation, and evaluation of their own and other's oral, written, and visual texts.

Objective	Lessons		
	Open Court	Core Knldg	Shurley Method
1. Develop individual standards for effective communication for different purposes and compare them to their own oral, visual, and written texts. An example is evaluating a project report in terms of personal standards for content, style, and organization.	X		
2. Develop and apply both individual and shared standards based on exemplary works creative for varied purposes and contexts.	X	X	
3. Demonstrate preferences in reading, writing, speaking, listening, viewing, and representing based on aesthetic qualities and explain their choices.	X		
4. Create a collection of personal work selected according to both individual and shared criteria, judging the merit of each selection.	X		X
5. Develop standards to analyze how the style and substance of personal messages reflect the values of a communicator.	X	X	

SCHEDULING SUGGESTIONS FOR OPEN COURT READING (2000 Edition)

- Do at least one activity from Part One/Green Section and at least one activity from Part Three/Blue Section each day
- Also do the Part Two/Red Section as follows:

DAYS 1 & 2 (DAY 1 only if 3-day lesson plan):

- Word Study (not part of K, 1, 2:1, or 3:1)
- Cues & Problems and include in this six of the Vocabulary words, pronouncing them only and not using transparency
- Reading the Selection, Teaching Comprehension Strategies and doing end-of-story Discussion
- Literary Elements and Skills Sheet
- Pre-Writing from the Process Writing
- Meeting Individual Needs and Independent Work Time

DAYS 3 & 4 (DAY 2 only if 3-day lesson plan):

- Second Reading of the Selection
- Vocabulary - from the transparency first, then using context clues
- Teaching Comprehension Skills during the Second Reading
- Teach Literary Elements by having students include new technique as they write their Draft from the Process Writing - or - students find places in writing they have already done to Revise and use the new technique
- Meeting Individual Needs and Independent Work Time

DAY 5 (DAY 3 if 3-day lesson plan):

- Silent Reading of Selection and/or discussion with Theme Connections
- Inquiry Notebooks
- Comprehension Assessment
 - Grammar Skill - do worksheet **or**
 - use this skill in your Process Writing **or**
 - do Skills Assessment Sheet
- Meeting Individual Needs and Independent Work Time

FIRST READING

- g Activate Prior Knowledge
 - Browse
 - Set Reading Goals and Expectations
 - Vocabulary
- r Oral Reading (Modeling Strategies)
 - Discussion (using information from browsing and setting reading goals and expectations)
- b Writing (Literary Element)
 - Writing Process
 - Independent Work Time (not necessarily every group this day)

SECOND READING

- g Vocabulary
- r Theme Connections
 - Record Ideas
 - Skills Reading
 - Skills Sheet
- b Writing Process
 - Independent Work Time

THIRD READING

- p 20 minutes for the project
 - r Partner or Silent Reading
 - Inquiry Notebook
 - Comprehension Assessment and/or Skills Assessment
 - b Grammar Skill (pulled in with the Writing Process)
 - The teacher will select either:
 - 1) the worksheet on the skill
 - 2) go back to the student's writing and proof-read for the skill/if not there "How can we make our piece better by adding the skill?"
 - 3) skills assessment page
- Writing
Independent Work Time

UNIT _____ : LESSON _____

Part One (may take 2 days)

GREEN

- Word Knowledge p. _____
- Build Background p. _____
- Preview and Prepare p. _____ Transparency p. _____
- Selection Vocabulary p. _____

RED

- Class Reading Story p. _____
 Story Title: _____
 ↳ Left side of the Manual Questions (Strategies)
- Discussion (Did we answer our purpose for reading?)

BLUE

- Writing: Literary Elements p. _____
 Concepts: _____
 RW WB p. _____
- Writing Process p. _____
 Concepts: _____
- Independent Work Time

© WORKSHOP ©

- Handwriting p. _____
- Spelling p. _____
- Reading Folders:
 - Reteach p. _____
 - Skills p. _____
 - Challenge p. _____
- _____
- _____

UNIT _____: LESSON _____

Part Two (1 day)

GREEN

- Vocabulary p. _____ Transparency p. _____

RED

- Theme Connections (end of story) p. _____

- Relook at Story p. _____

Story Title: _____

➤ Right side of the Manual Questions (Skills)

- Skills Sheet p. _____ RW WB p. _____
p. _____ RW WB p. _____

BLUE

- Writing Process p. _____

Concepts: _____

RW WB p. _____

- Independent Work Time

☺ WORKSHOP ☺

- Handwriting p. _____

- Spelling p. _____

- Reading Folders:

Reteach p. _____

Skills p. _____

Challenge p. _____

- _____

UNIT _____: LESSON _____

Part Three (may take 2 days)

PROJECT

- 20 Minutes for Project Work Time (PURPLE p. _____)
-

RED

- Partner or Silent Reading p. _____
 Story Title: _____
 ➔ Uninterrupted reading time
- Inquiry Journal p. _____
 ⇨ Recording Concept Information IJ p. _____
 ⇨ Other Pages p. _____ Concept: _____ IJ p. _____
 p. _____ Concept: _____ IJ p. _____

PURPLE

- Comprehension Assessment p. _____ CW A p. _____
 Skills Assessment p. _____ S A p. _____

BLUE

- Grammar Skills p. _____
 Concept: _____
 ➔ Choose one or more
1. Worksheet on the skill p. _____
 2. Proof/edit student work
 3. Skill Assessment p. _____ (PURPLE)
- Writing Process p. _____
 Concept: _____
- Independent Work Time

☺ WORKSHOP ☺

- Handwriting p. _____
 Spelling p. _____
 Reading Folders:
 Reteach p. _____
 Skills p. _____
 Challenge p. _____
-
-

Extra skills to work on:

OPEN COURT ASSESSMENT OVERVIEW

**“True assessment is a tool for learning
rather than a mere measure of achievement.”
SRA/Open Court Reading Author, Joe Campione**

The goal of true assessment is to inform instruction. It helps determine what students know and how to change the instruction to help students learn what they need to know. The assessment components of SRA/Open Court Reading reflect the balanced nature of the series itself. The following are principles that guided the development of the assessment components.

Ease of Use for the Teacher

The assessments are easily administered and scored, feature the same language that is used in the instructional components of the series, and correspond to the sequence of instruction in the series. The assessments are typically short enough to prevent fatigue from affecting student performance yet long enough to provide a dependable measure of student skills and abilities.

Assessment of Critical Skills

The skills that are featured prominently in the series—the skills that are critical to the reading process—are the focus of assessment. These same skills are typically included on standardized tests and in state standards, so the assessments will help teachers respond to the accountability system under which they work.

Variety in Assessment

In addition to the formal and informal assessments,

SRA/Open Court Reading includes:

Pre-and Post-tests

Unit Tests

Comprehension Assessment

Self-Assessment

Portfolio Assessment

Family Evaluation

OPEN COURT ASSESSMENT AND MONITORING

ASSESSMENT TO INFORM INSTRUCTION

Variety of Assessment Tools

Pre-and Post-Tests

Unit Tests

Comprehension Assessment (Previously Comprehension Checkpoints)

Self-Assessment

Portfolio Assessment

Family Evaluation

PURPOSE: Detect children's strengths and weaknesses through informal monitoring.

PROCEDURES: Observation Logs
(Reproducible masters)

Monitoring Written Work
(Reproducible masters)

Individual Conferences

CONTINUOUS ASSESSMENT

Materials

- * Assessment Guide
- * Assessment Masters

Monitoring

(Teacher's Observation Logs)

Reading Performance Assessment

(Using Phonics Minibooks)

Writing Performance Assessment

(3 or 4 during the year)

Portfolios

Written Tests

Fourth Grade - Instructional Collection

POETRY:

Core Knowledge

- Afternoon on a Hill (Edna St. Vincent Millay)
- Clarence (Shel Silverstein)
- Clouds (Christina Rossetti)
- Concord Hymn (Ralph Waldo Emerson)
- Dreams (Langston Hughes)
- The drum (Nikki Giovanni)
- The Fog (Carl Sandburg)
- George Washington (Rosemary and Stephen Vincent Benet)
- Humanity (Elma Stuckey)
- Life Doesn't Frighten Me (Maya Angelou)
- Monday's Child is Fair of Face (traditional)
- The Pobble Who Has No Toes (Edward Lear)
- The Rhinoceros (Ogden Nash)
- Things (Eloise Greenfield)
- A Tragic Story (William Makepeace Thackeray)

SPEECHES:

- Patrick Henry: Give me liberty or give me death *Core Knowledge*
- Sojourner Truth: Ain't I a Woman *Core Knowledge*

READ ALOUD STORIES: (Select five)

- Gulliver's Travels (Jonathan Swift) (adapted-*Core Knowledge*)
- The Legend of Sleepy Hollow (adapted-*Core Knowledge*)
- Rip Van Winkle (Washington Irving) (adapted-*Core Knowledge*)
- Pollyanna (Eleanor Porter) (adapted-*Core Knowledge*)
- St. George and the Dragon
- Stuart Little
- Island of the Blue Dolphins

NOVEL UNITS:

- Sarah Plain and Tall
- Trumpet of the Swans
- Courage of Sarah Noble
- Robinson Crusoe (Daniel Defoe) or Treasure Island
(both: adapted-*Core Knowledge*)

Notes/Comments:

The above selections can all be found in **Listen, My Children.**

National Heritage Academies Library Media Centers

The mission of the library media program at National Heritage Academies is to provide the students and educators with equitable access to information, ideas, and learning/teaching tools. The library media centers at National Heritage Academies are a growing resource of information for the staff and students. Resources include books, videos, periodicals, online reference resources, traveling projection systems and various teacher workbooks and posters. Many schools include video cameras, digital cameras and other technology for circulation. Our collections are developed to support the curriculum and provide students with literature. An OPAC system (online card catalog) is available at each computer terminal in each school building. Searching for materials can be done from the classroom as well as the library media center.

In order to support the curriculum and the activities taking place at each individual school, students may use the Library Media Center for research, study, reading, browsing, fact-finding and any other educational purpose. Students are encouraged to visit the library media center during school hours--either individually or as a class. Each building will prepare a schedule for weekly class visits and/or individually arranged class visits.

Materials are checked out to students for one week. If a student wishes to renew a book, he/she may do so at any time. It is important for the books to be returned on time and in good condition.

If a book is lost or damaged, the student is held responsible for that book. The student will be notified of the cost of the book and be expected to reimburse the school for the damaged or unreturned property. The amount charged will be the original purchase price of the book. If books are not returned or paid for, report cards may be held.

Accelerated Reader (AR) is a motivational reading program that is networked throughout National Heritage Academies. The program deals with individual reading levels, reading comprehension, and assessment. It involves reading books, taking quizzes on the computer and the earning of points. Many of our schools have an established school wide-program that is run by the teachers and/or library staff. In other schools, teachers use AR individually with their classes. The staff and/or administration at each school determine how this program is facilitated.

Teachers and staff are welcome at any time in the library media center to browse, search, and check out materials. They are encouraged to contact the librarian with any special requests for materials. Librarians are available to meet with teachers for planning purposes or curriculum needs.

The library media center at a National Heritage Academies school strives to be a fountain of information for growing, learning, and fun. Welcome!

SHURLEY GRAMMAR METHOD

The approach used by The Shurley Method is active learning, with students physically and cognitively engaged in the learning process. Success in learning Shurley English is predicated on the reinforcement of language skills. Students memorize rhyming jingles for each of the parts of speech. In unison, they chant these jingles in a kind of language symphony until they have internalized the concepts of nouns and verbs. A Shurley classroom is one of energized learning, where students teach as well as learn. They move back and forth from group activities to independent learning exercises, from a mastery of grammar skills to creative writing exercise. In fact, students, almost without exception, beg for more class time to write.

Despite the fact that memorization and repetition have not been in vogue in recent years in American schools, they are fundamental to the success of the Shurley Method. Rarely does a Shurley student return to classes at the start of a new school year needing to be retaught concepts he/she mastered during the previous school year. The retention is permanent.

The Shurley Program provides students with two important ingredients for success: a love of the English language and the ability to use the English language correctly with ease and confidence.

WHY THE SHURLEY METHOD?

- *The Shurley Method* is the end result of twenty-five years of research. Actual classroom situations and the learning needs of students were used to develop this exciting English program.
- *The Shurley Method* never teaches concepts in isolation. A concrete set of questions about each word in a sentence is used to teach students how all the parts of a sentence fit together. Students always have a clear picture of how to write complete sentences.
- Students are constantly exposed to “see it, hear it, say it, do it,” activities that meet the visual, auditory, and kinesthetic learning types of students.
- *The Shurley Method* successfully teaches language skills to students with different learning abilities and to students who learn English as a second language.
- *The Shurley Method* uses repetition, fun and student-teacher interaction to help students learn difficult English skills. The teacher models each new step in *The Shurley Method* for the students. Then the students actively participate with the teacher as the steps are practiced.
- *The Shurley Method* provides enough repetition to master each concept taught. Lessons include daily practice of old skills while new skills are being added.
- The students are taught how to merge a strong skill foundation with the writing process. As a result, teachers can spend less time going over beginning grammar and editing skills and more time introducing and enhancing advanced grammar and writing skills.
- Students’ grammar and writing skills are used automatically with dependable results. This leads to higher level thinking skills because the students are stimulated to learn and use their own thought processes to solve difficult language problems.
- The most important effect of *The Shurley Method* on students may not be their increased grasp of language and improved grammar and writing skills. Instead, the greatest impact may be the students’ heightened self-confidence and self-esteem. Not only do the students gain confidence in English, but they carry this improved attitude into other subject areas as well.

THE SHURLEY METHOD ASSESSMENT

3-Day Rotation Schedule Assessment

Day 1 – Teach

(No test will be given to students on Day 1.)

1. Vocabulary and Definition Time
2. Introduce the new grammar concept and classify sentences orally.
3. Leave classified sentences on the board or transparency for Oral Skill Builder Check.
4. Write a Practice Sentence and an Improved Sentence with your class.

Day 2 – Review, Teach, and Test

(Tests will be given to students. You will use one test sheet every 3 days.)

1. Vocabulary and Definition Time.
 2. Classify same sentences orally (again).
 3. Teach the other English concepts that will be tested.
 4. Erase the board or remove the transparency and give the student worksheet as a test.
- Students are tested on the same sentences that they have classified orally together. This helps students gain the confidence to work with many skills independently and helps weak readers concentrate on learning English skills without struggling with reading vocabulary.

Day 3 – Teach and Check

(Hand the tests back)

1. Vocabulary and Definition Time.
2. Classify same sentences orally (again).
3. Leave classified sentences on the board or transparency as a visual aid when checking student tests.
4. Discuss mistakes and how to improve.

2-Day Rotation Schedule (Skip Day 1 – Oral Day)

Day 2 – Review, Teach, and Test

(Tests will be given to students. You will use one test sheet every 3 days.)

1. Review grammar by classifying sentences.
2. Teach the other English concepts that will be tested.
3. Give students the worksheet as a test.

Day 3 – Review and Check

1. Review grammar by classifying sentences.
2. Hand test back. Discuss mistakes and how to improve.

Checking Options

Teacher Graded: Select one or two sentences from the top section and several items from the bottom section to check for a grade. Then have students check the rest of the sheet with you as a practice exercise. Use a teacher-directed word-by-word check. Students focus not only on mistakes but also on correct responses. This will show them the mistakes they made, and they can use this knowledge to do better on the next test.

Student Graded: Train double checkers to help weak checkers and to grade absent students' papers.

**LANGUAGE ARTS
FOURTH GRADE**

Writing

**Collins Writing Program
Philosophy: The Teaching of Writing
Collins Writing Strategies
Teacher Resources
Assessing Your Current Writing Program**



COLLINS WRITING PROGRAM

Philosophy: The Teaching of Writing in NHA Schools

ON THE TEACHING OF WRITERS:

A belief system about how children develop as language users from birth through adulthood and what teachers should do in their classrooms to foster that growth is essential to any writing curriculum. Moreover, to provide integrated and meaningful instruction and accountability, the writing program must be organized around a system for managing the writing process. The following is meant to be a guide to teaching "writers" in the classroom.

1. **Children as language users:**

National Heritage Academies believes that children come to school with an innate curiosity about writing and a desire for meaningful, real-world communication, and that writing is one of the most complex intellectual tasks they will need to accomplish. Further, children develop writing skills in a manner that mirrors the way they learn to talk. Teachers, then, teach "writers" rather than "writing," and children become writers by the very act of writing itself. We believe that teachers help children view and define themselves as thinkers and writers by involving them with the real occurrences of their minds, hearts and world and that writing enhances the learning process of any subject at any level.

2. **Classroom culture of active literacy:**

What teachers *do* in the classroom positively impacts students' development as writers more often than what teachers *say* in the classroom. The conditions that promote the development of writers are the same as those that facilitate learning to talk:

- *Immersion:* creating a language-rich and print-rich environment
- *Demonstration:* modeling of writing in the classroom by the teacher
- *Expectation:* subtly communicating to children that they will learn to write
- *Responsibility:* giving students opportunities to be responsible for their own learning
- *Approximation:* encouraging and respecting children's writing efforts
- *Employment:* making time and opportunities for writing
- *Feedback:* allowing patience with the growth process

National Heritage Academies wants its classrooms to be places where children come expecting to write each day with the knowledge that their efforts will be valued, supported and respected.

3. **A skill for thinking across the curriculum:**

National Heritage Academies believes that students should have frequent and varied opportunities to write in *all* content areas. Writing is an aid to thinking and organizing ideas across the curriculum rather than merely a subset of the language arts curriculum. It is a balance of process (how people communicate) and product (what they communicate).

4. **Managing and evaluating a program for writing:**

Because we understand that writing is a necessary skill for effective communication and expression, and realizing that people learn to write by writing, there must be a workable system of instruction. That system must be coupled with an assessment system to measure levels of achievement in both the student and the teacher.

National Heritage Academies has adopted **The Collins Cumulative Writing Folder Program** to support teachers in building an effective and experiential writing program within their classrooms and the school. The Collins Writing Program provides schools with a writing program— a unified set of techniques and expectations about student writing— that can be developed and reinforced over a period of years, as well as a way to measure levels of achievement in both students and teachers. It involves:

- Integrating writing across the curriculum using Five Types of Writing
- (noted on the following two pages)
- Encouraging a balance of process and product
- Encouraging ownership through a student-centered program of instruction
- Ensuring the development of critical writing and thinking skills
- Making the program student-centered
- Involving frequent writing opportunities
- Affording a practical and manageable program for both teacher and student.

The Cumulative Writing Folder Program consists of four elements: a writing management system and three teaching strategies. The strategies are:

- Oral reading
- Focus correcting
- Using past papers to teach new skills

The Program has been successfully used in special education, with the gifted and talented, and in English as a second language programs. Each element reinforces the others.

Realizing each teacher's need to understand instructional expectations as well as to be supported in those expectations, a workable "Scope and Sequence for the Teaching of Writers" will be forthcoming.

A list of resources from the Collins Education Associates follows The Collins Writing Strategies.

Type One: Writing that has no correct answer – or, if there is a correct answer, it's okay to be wrong

- Purpose: To capture ideas, questions, reactions
- Evaluation: A check + or -, 10 pts. or 0 pts., a "smiley face" or no "smiley face," a jelly bean or a coffee bean . . . in other words - it's up to you. **"Reasonable best effort"**
- Basic Guidelines: 1. Always skip a line 3. Provide a minimum volume
2. Always label the type of writing 4. Provide a maximum time limit
- Advantages: *Spontaneous, minimal preparation *Takes very little class time
*Effective thinking stimulus for all *Promotes writing fluency

Type Two: Writing that makes a point - has a correct answer

- Purpose: To show that the writer knows something about the topic or has thought about it
- Evaluation: Type Two writing is like a quiz; mistakes in content count. Writing style and mechanics do not count - the content counts. **"Reasonable best effort"**
- Basic Guidelines: 1. Always skip a line 3. Provide a maximum time limit
2. Always label the type of writing 4. Avoid numbering
- Advantages: *Spontaneous, little pre-planning *Promotes writing fluency
*Quick assessment *Promotes writing in the content areas

Type Three: Writing that has content and focus correction areas

- Purpose: To produce a single draft that meets the standards set by the focus correction areas (FCA). Type Three writing is read out loud by the author to see if it does three things:
 - Completes the assignment
 - Sounds correct-easy to read
 - **Avoids errors in the focus correction areas**
- Evaluation: Evaluation is based solely on FCAs. **"Reasonable best effort"**
- Basic Guidelines: 1. Always skip a line 3. Maximum of three focus areas/paper
2. Always place FCAs in the upper left
- Advantages: *Very efficient *Ease of evaluation

Type Four: Writing that has been read out loud and critiqued by another – two drafts

- Purpose:** To produce the best possible work in two drafts. Writer follows the same steps as Type Three, repeats steps with a peer, and produces the best possible second draft that is placed in **The Cumulative Writing Folder**.
- Evaluation:** Evaluation is based on focus correction areas. **“Reasonable best effort”**
- Basic Guidelines:**
1. Always skip a line
 2. Always place FCAs in the upper left
 3. Maximum of three focus areas/paper
- Advantages:**
- *Fair, objective evaluations
 - *Provides a systematic, clear, and logical sequence of writing skills

Type Five: Writing that can be published and go outside the classroom without explanation or qualification – multiple drafts

- Purpose:** To produce the best writing possible. Writer follows the same steps as Type Four to create a paper void of errors.
- Evaluation:** Type Five writing is usually a major project. It must meet all standard conventions.
- Basic Guidelines:**
1. Always skip a line
 2. Always label the type of writing in rough drafts
- Advantages:**
- *Great final product
 - *Real-world standards
 - *Promulgates full range of skills

It has been our experience that many teachers, especially after a full day workshop with opportunities for “hands-on” practice, can effectively implement many of our ideas in their own classrooms.

However, most teacher training has failed miserably because it tends to be “hit and run” in nature. A basic assumption of our work is that writing instruction will be most effective when it is supported by a program— a unified set of teaching techniques and expectations about student writing that are developed and reinforced over a period of years. This kind of program development takes time and commitment. We believe that writing instruction must also be evaluated on a regular basis to provide teachers and students with clear and achievable goals from one year to the next. Therefore we have developed an extensive variety of program development services:

Examples of our teacher support and program development service sessions:

- * demonstration lessons
- * establishing an in-house evaluation model
- * individual department/grade level sessions
- * developing strategies for state assessment tests
- * practice developing great writing assignments
- * practice developing appropriate FCAs

Developed by Mark E. Dressel, Collins Education Associate 616.361.1839

COLLINS WRITING - TEACHER RESOURCES:

Center for Effective Communication-Collins Education Associates LLC:

The following publications may be found on the *AcademyLink Purchase Order form* for **The Network (formerly Collins)** and can be purchased through your building principal (textbook budget). It is recommended that each teacher have the following:

1. **Cumulative Writing Folders** - for each student in grades 1-8 for use in helping to manage the classroom writing program. Teachers of grades 1-3 should order the **Primary Cumulative Writing Folders**. Teachers of kindergarten may want to develop their own "folder system" for writing management.
2. **Developing an Effective Writing Program for the Elementary Grades** by Gary Chadwell.
3. Middle School Teachers: **Developing Writing and Thinking Skills Across the Curriculum** by Gary Chadwell.

Additional Recommended Resources:

1. Frank, Marjorie. **If You're Trying To Teach Kids How To Write...you've gotta have this book!** Incentive Publications, Inc., Nashville, Tennessee. 1979. (ISBN: 0-86530-317-7). Can be purchased through most bookstores. All Grades.
2. Areglado, Nancy and Dill, Mary. **Let's Write: A Practical Guide to Teaching Writing in the Early Grades- K-2.** Scholastic Professional Books, New York. 1997, (ISBN: 0-590-93102-4). Can be purchased through teacher stores or most bookstores. Early Grades.
3. Butler, Andrea and Turbill, Jan. **Towards a Reading-Writing Classroom.** Primary English Teaching Association, NSW, Australia: Heinemann, 1984. (ISBN: 0-435-08461-5).
4. Atwell, Nancie. **Coming to Know: Writing to Learn in the Intermediate Grades.** Portsmouth, NH: Heinemann, 1990. Presents many ways to use writing in content area study, including learning logs and research projects in every subject.
5. Calkins, Lucy. **The Art of Teaching Writing.** Portsmouth, NH: Heinemann, 1994.
6. Lane, Barry. **After 'The End': Teaching and Learning Creative Revision.** Portsmouth, NH: Heinemann, 1993.

Assessing Your Current Writing Program

You already have a writing program in place in your classroom, one shaped by your beliefs and attitudes about writing instruction. It's driven by techniques and strategies you use with your students, and it's organized around a system you use for managing the writing process. The survey that follows will help you assess your current writing program by helping to identify what you emphasize most and least in your own classroom. It will give you a snapshot of your current writing program.

After you complete this survey, your findings will enable you to reaffirm, challenge, or recalibrate some of your assumptions and help you make strategic decisions about ways to improve your writing program.

Writing Program Assessment Survey For Elementary Grades

Instructions: For each of the activities that follow, give a rating of 0-5 that most accurately describes how often you do the activity during a year. This self-assessment will be most valuable if you are candid in your estimates. Try not to overestimate; rather than rating the items based on how much you like them, rate them on how often you actually do them.

- 0 - Do not do
- 1 - Infrequently (one to three times a year)
- 2 - Occasionally (four to six times a year)
- 3 - Regularly (once a month)
- 4 - Frequently (twice a month)
- 5 - Very frequently (once a week or more)

PROGRAM VALUES

- _____ 1. Give students low-risk writing opportunities such as free writing or journal writing.
- _____ 2. Take overt steps, such as writing along with your students, to create a classroom culture of active literacy.
- _____ 3. Provide frequent opportunities for students to write in all content areas.

PREWRITING ACTIVITIES

- _____ 4. Involve students in writing projects based on their personal experiences, reading experiences, or class discussions.
- _____ 5. Engage students in discussions and activities that clarify writing projects, generate ideas, and help in planning and organizing writing.
- _____ 6. Provide models, including examples of other students' writing, to help guide your students' writing efforts.

DRAFTING ACTIVITIES

- _____ 7. Provide opportunities for students to write in many forms (narratives, letters, reports, poems, and so on).
- _____ 8. Provide opportunities for students to write for various *purposes* (to inform, entertain, persuade, explain, and so on) and various *audiences* (parents, peers, authors, public officials, and others).
- _____ 9.* Provide students with specific criteria that they can use to guide their thinking and writing and that you use to provide feedback on the writing project.

REVISING AND EDITING ACTIVITIES

- _____ 10. Model revising strategies (elaborating, sentence combining, eliminating unnecessary words or phrases, checking for sentence variety, and so on) that help students review and improve their writing.
- _____ 11. Teach grammar and mechanical skills in relation to students' current writing experiences.
- _____ 12. Encourage students to proofread their own work (checking for punctuation, capitalization, and spelling).
- _____ 13. Encourage students to peer-edit each other's papers before they are finalized.
- _____ 14. Involve students in maintaining a portfolio of their writing that they can review and use to develop new writing skills.

SHARING ACTIVITIES

- _____ 15.* Encourage students to read their work out loud - to themselves and others - as part of the writing process.
- _____ 16. Display or "publish" examples of high-quality writing.
- _____ 17. Give writers positive, specific feedback on their work.
- _____ 18. Conduct individual writing conferences with students.

_____ **Total Score**

*One of the Critical Four strategies

Interpreting Your Score

What does the survey tell me? Even before you total your score, a look at your survey provides some insights into your writing program. Since time is a valuable commodity in the classroom, your responses show you how you are using this scarce resource. The strategies you have rated as 4 or 5 are the “cornerstones” of your writing program because you are giving significant time to them. These are the strategies that drive your writing program.

The survey also shows you areas where you are giving little emphasis. These areas may not be emphasized in your classroom for any number of reasons. You may feel that they are not critical to your students' development as writers or that they are not appropriate for your students. Other low-rated strategies may be ones that you value but have not yet been able to effectively incorporate into your teaching.

What is a good score? Obviously, as your score approaches 90 it means that you have rated virtually all of the 18 items at 4 or 5. Although these 18 items represent an excellent overview of effective writing practice, you may ask whether it is necessary to use all of them with great frequency to have an effective writing program. Your question is a common one that subsumes other, related questions: Can I do all these things regularly with the number of students I have? With my time constraints? With my curriculum demands?

So, what's the lowest score I could get and still have an effective writing program? A score in the 54-72 range is the basis for an effective writing program. A score higher than 72 would indicate that writing is already a prominent component of your classroom culture. A score lower than 54 (18 items multiplies by an average score of 3) could indicate that writing is not done often enough or that your writing instruction does not provide the kind of consistent focus students need to improve as writers. The strategies on this survey have little impact on improving students' writing when used randomly.

How do I use the survey to improve my writing program? In addition to looking at your overall score, you might want to look at your scores in the five sections of the survey – Program Values, Prewriting Activities, Drafting Activities, Revising and Editing Activities, and Sharing Activities. Do your scores in one or more sections seem noticeably higher or lower than scores in other sections?

In reviewing your scores in the five sections, don't overlook the fact that some of the strategies have benefits in several aspects of the writing process – not only the one in which it is categorized in the survey. A good example is item 15 (*Encourage students to read their work out loud – to themselves and others – as part of the writing process*) which is a strategy appropriate for drafting, revising and editing, as well as sharing. This is a critical strategy for young writers because it focuses attention on the overall quality of the written message rather than on the individual words. Its use is also beneficial in several stages of the writing process.

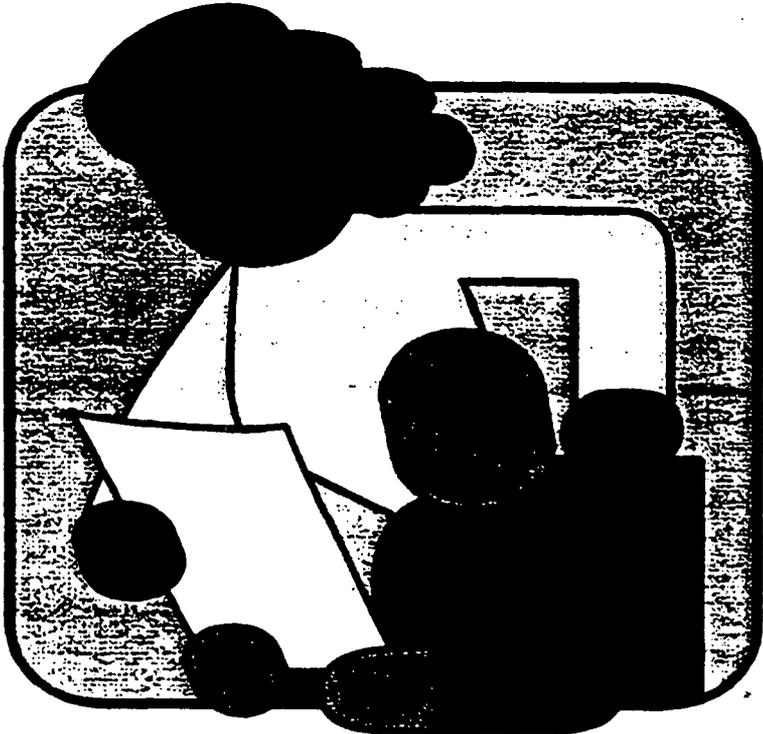
One way to use this survey is to consider carefully your scores on items 3, 9, 14, and 15 – the Critical Four strategies. I have identified these as the Critical Four strategies because high scores in these areas ensure that your writing program is headed in the right direction. It means that students are writing often, you are focusing your writing instruction, and you are showing students ways to be effective resources to themselves and others.

Making changes in any of these areas takes thought and effort, so avoid the temptation to change too many things at once. After reviewing your survey, choose two of the strategies that you feel would have the greatest impact on improving your students' writing and work on improving those. They may be two of the Critical Four or others that you think will benefit your students.

You may want to read more about the 18 strategies before you decide where to begin. Chapters 2-6 of this book focus on the strategies from the survey and Action Steps for each one. The remainder of the book looks at ways to use the Critical Four strategies to create an effective writing program for your young writers and provides some suggestions for communicating about your program to parents.

**MATH
FOURTH GRADE**

**Saxon Math
Saxon Math Grades 1-4
Whole Group Pacing
Saxon Grade Level Curriculum**



SAXON MATH

Saxon Math grew out of a decade of intense classroom interaction with students in which the goal was for students to learn and remember the foundational skills of mathematics. The term “foundational” is appropriate because mathematics, perhaps more than any other subject, is a cognitive structure that builds upon prior learning. The ultimate height and stability of the mathematical structure within each individual are determined by the strength of the foundation. The text, as well as each book that precedes or follows, provides the student with the time and opportunities necessary to build a rock-solid foundation in beginning mathematics. For this to occur it is essential that all practice problems and all problem sets be completed by the students.

THE SAXON PEDAGOGY

Incremental development, continual review, and frequent, cumulative testing. There are three pillars of Saxon Mathematics.

- Incremental development means that concepts are taught in small, easily understood pieces that are presented in individual lessons over the course of the academic year.
- Once an increment has been taught, it is reviewed daily through worksheets and homework sets—a process called continual review. As concepts grow in complexity, earlier increments are included. Thus, all concepts and skills can be practiced on a daily basis without the homework sets becoming large and unwieldy. Over time, incremental development and continual review foster assimilation, mastery, and complete understanding of concepts and skills.
- Frequent, cumulative testing allows students to prove their mastery of skills before new concepts are introduced. Assessments encompass all concepts and skills that students have practiced.

SUCCESS WITH SAXON MATHEMATICS

There is considerable evidence from the educational community to suggest why Saxon’s pedagogy of incremental development, continual review, and frequent, cumulative testing should be successful. What follows—support ranging from experimental studies to anecdotal evidence—suggests that this pedagogy is in fact successful.

Studies indicate that Saxon’s Mathematics texts:

- can increase student test scores (Reed 1983; McBee 1984; Sistrunk and Benton 1992); Calvery, Bell, and Wheeler 1993; Rentschler 1994; Mayers 1995; Sanders 1997);
- can benefit students of low and average ability (Klinge and Reed 1984; Johnson and Smith 1987; Calvery, Bell, and Wheeler 1993);
- can lower math anxiety in students (Lafferty 1994);
- may help minority students narrow the math achievement gap (Sistrunk and Benton 1992); and
- are preferred (over traditional texts) by students and faculty (Johnson and Smith 1987 and Nguyen 1994a).

One of the most comprehensive studies of the effectiveness of Saxon textbooks was conducted between 1992 and 1994 by the Planning, Research, and Evaluation Department of the Oklahoma City public school system (Ngyuen 1994b). The study encompassed K-5 students in over three hundred classrooms using non-Saxon programs. Analysis of the 1994 ITBS scores for the Saxon students and a comparison group of the non-Saxon students revealed that:

Overall, the Saxon group scored higher than the comparison group of students in all comparisons. Five of these comparisons were statistically significant ($p < .01$): complete composite, total math, math concepts, problem solving, and reading comprehension. The other four comparisons also favored the Saxon group; however, the differences were not statistically significant: math computation, science, social studies, and total language.

Comments from teachers and administrators:

- *"The first four years (using Saxon) my class had the highest scoring on the state ISTEP test in Muncie, which has twelve elementary schools. Last year we were number one in problem solving in the city."* Mel Botkin, Retired Teacher, Muncie, IN
- *"Students are taking more math classes than ever before in the history of the school. In 1989 (before Saxon), we had about 30% of the student body in the math program. Today, almost the entire student body is involved."* Larry Cone, Teacher, Muskegon, MI
- *"I see improvement in retention of skills using Saxon at all levels. Often young people come into eighth grade believing they 'can't do math' and change their minds (after using) Saxon."* Cyinda Rucker, Teacher, Eagleville, MO
- *"Probably the most exciting thing about using Saxon this year was seeing students develop their ability to apply what they had already learned to new topics. Another tremendous benefit was no longer seeing the blank looks regarding topics covered earlier in the year."* Elizabeth A. Moody, Teacher, Hudson, NH
- *"All seventh-graders were tested before studying Saxon and scored in the range from 8th percentile to 97 percentile. Class average was 44th percentile. After one year of instruction using Saxon Algebra 1/2, the median score for the same students was 97th percentile."* Frederick H. Maas, Teacher, Santa Fe, NM
- *"Our math scores have dramatically improved. All of my teachers love the Saxon materials."* Mike Hanke, Principal, Green Bay, WI
- *"The special education students are catching up. Many no longer qualify for special education after two years of Saxon."* Marvin Miles, Teacher, Blackfoot, ID

Conclusion

The Saxon pedagogy has its roots in the classroom. It is a method that was developed specifically to improve long-term retention of concepts and skills. For twenty years, and with increasing refinement, the Saxon pedagogy has been applied to a range of subjects and grade levels. Because of its effectiveness and ease of use, tens of thousands of teachers across the United States and abroad have embraced the Saxon methodology, and millions of students have benefited from mathematics instruction based on incremental development, continual review, and cumulative testing.

SAXON MATH GRADES 1-4

Introduction

Saxon's primary mathematics series is a "hands-on," success-oriented program that emphasizes manipulatives and mental math. The series addresses the multisensory approach to teaching and is designed for heterogeneously grouped children. Its use will enable all children to develop a solid foundation in the language and basic concepts of mathematics.

There are five components to Saxon's primary math program: The Meeting, The Lesson, Written Practice, Facts Practice, and Assessment.

1 The Meeting

Each day the children will participate in a beginning-of-the-day math activity called The Meeting. This is a comfortable and predictable routine that is repeated in every grade (K, 1, 2, 3, 4) at appropriate conceptual levels. It is important that The Meeting take place each day when all the children are present. At different times in different grades during The Meeting, the children practice skills related to time, temperature, money, counting, patterning, and problem solving. The language and activities in The Meeting develop as the year progresses and expand on those from the previous grade level. Initially, the teacher leads The Meeting; the children gradually assume this responsibility.

The focal point of The Meeting is the meeting board. It is not necessary to have a single board as long as all of the components are posted in view and within reach of all of the children. Each grade level has instructions in the teacher's manual describing the meeting board for that program. If possible, construct the meeting board in a place where children can sit in a semicircle in front of it.

At the beginning of the school year The Meeting may take longer than the recommended fifteen to twenty minutes. Both teacher and students will be adapting to this daily procedure, and as everyone becomes more familiar and comfortable with the routine, The Meeting will take less time. **Toward the middle of the year the teacher may choose to omit parts of The Meeting that the students have mastered** (except for once or twice a week as review) **so that the pace remains energetic and the content interesting.**

2. The Lesson

The Lesson usually occurs later in the day. During The Lesson, a new objective (increment) is introduced through a carefully selected group activity. Children use materials, engage in discussions, work in groups, and work together to help each other learn. Teachers should not expect children to perform beyond the difficulty level of the presented problems, nor should they worry if a child does not “catch on” during the first encounter with a concept. It is expected that the child will work on problems at the same level of difficulty for several days or weeks before proceeding to the next level of difficulty. The concept will be extended in subsequent Lessons.

In grades 1-4, four Lessons should be completed each week. The extra day of the week can be used for catching up or for math games or projects. The Meeting should take place on the extra day as well. The teacher can use The Meeting from the previous day (or any day that week) by changing the parts to reflect a new day. In weeks containing an Assessment, four Lessons (including the Assessment) should be completed. The Meeting script for the first day of the month also contains The Lesson for that day.

It is important that the teacher not become discouraged at the length of time it takes to complete a Lesson the first few months of the program.

Teachers who have completed an entire school year will assure you that it does get better. You will soon be able to look at a Lesson and decide whether to attempt it in one day or whether to divide it into two days. Don't forget that an extra day each week is built into the program! When dividing a Lesson, we recommend keeping the Facts Practice with The Lesson and doing the Written Practice the following day.

Notes on Manipulatives

Manipulatives are an integral part of the primary math program. Saxon Publishers sells a kit that supplies many of the manipulatives used in *Math K*, *Math 1*, *Math 2*, *Math 3*, and *Math 4*. You may prefer to shop at your local educational supply store or any educational catalog for math supplies. For a list of manipulatives by grade level, refer to the catalog or contact Saxon Publishers at (800) 284-7019.

Tip!

To keep lesson time to a minimum, always be aware of the time it takes to pass out and to collect manipulatives. You can distribute manipulatives in plastic baggies, baskets shared by two or three students, paper cups, or buckets. Items can be stored in the same containers used for distribution. Analysis of distribution procedures can sometimes help make a big difference in the overall length of math time.

3. **Written Practice**

Individual Written Practice is a short practice of the new objective and includes a continual review of previously presented concepts. Written Practice is a part of every Lesson in grades 1-4. Children complete Side A of the Written Practice in class with the teacher's assistance. Side B, which mirrors the examples completed in class, is done at home. Children are encouraged to ask parents for help, if necessary, and to have them check their work. If children have answered a question incorrectly in class, help them correct their work before marking their papers. Children learn from the experience of correcting their mistakes, and it is important that they have the corrected paper to refer to as they complete their homework. Because the Written Practice is being used as a part of the initial learning experience rather than a reflection of what has already been learned, it is corrected but not graded.

4. **Facts Practice**

Children are presented with strategies to help them learn the number facts. They are encouraged to recall the facts through the use of pattern recognition. Children practice the facts orally and monitor their progress in grades 2, 3, and 4 with timed drills (Facts Practice sheets). Children do not compete against one another, but rather with their own past performance. It is expected that children will have automatic fact recall by the end of the third grade. Teachers might consider encouraging students to keep their own record of their scores on fact sheets. This recording helps the students track their own individual progress and promotes a sense of accomplishment.

It is important to practice number facts each day. Depending on the class time available, you may want to have the children practice together in pairs or you may want to practice with the class as a whole.

Facts Practice differs from grade to grade. Grade 1 children practice facts on untimed facts sheets. Prior to working on a fact sheet the students are given class time to practice using their fact cards. The students are encouraged to better their score each time they do a fact sheet.

In *Math 2* the fact sheets are timed. To encourage students, give the first Facts Practice in each series without timing or counting it. Remember that the time allotted can vary depending on the difficulty of the facts. Allow two minutes or a minute and a half instead of the prescribed one-minute limit when these assignments are first introduced. If the majority of the students are not very successful on the final round with a set of facts, use some group practice techniques, and then administer the sheet an extra time. The goal at the beginning of the year is for the students to complete at least fifteen problems correctly by the third time the fact sheet is worked.

The time limit for the fact sheets is reduced to 45 seconds in *Math 3*. Again, this time can be lengthened initially to help the students adjust to the exercise. Some of the strategies used in *Math 2* can also be applied in *Math 3* to encourage the students to excel.

5. Assessment

Oral and cumulative written Assessments are built into the program. Each Assessment questions children on skills that have been practiced for at least five Lessons. At grades 1-4, a written Assessment occurs after Lesson 10 and after every five Lessons thereafter. An oral Assessment occurs every ten Lessons. The oral Assessments are short, individual interviews that occur during independent working time and on the extra day that is built into the program. Each oral Assessment may be completed over a period of five days.

GENERAL ASSESSMENT

An available test booklet contains two forms of tests for every five Lessons. The second test form may be used for make-up testing. Tests should be given about five Lessons after the last concept has been taught. Thus Test 1, which covers topics from Lesson 1 through Lesson 5, should be given after Lesson 10. Test 2 should be given after Lesson 15, Test 3 after Lesson 20, and so on. This allows the students time to learn the new topic before being tested on it. Students will make excellent progress if they are able to score 80% or better on the tests. Students who fall below the 80% level should be given remedial attention immediately. Some teachers choose to test every ten Lessons using only the even-numbered or odd-numbered tests. This is an acceptable alternative to testing every five Lessons.

Stephen Hake
Temple City, California

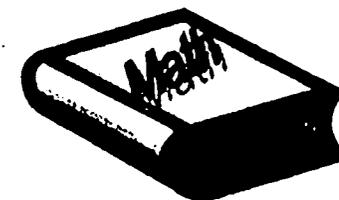
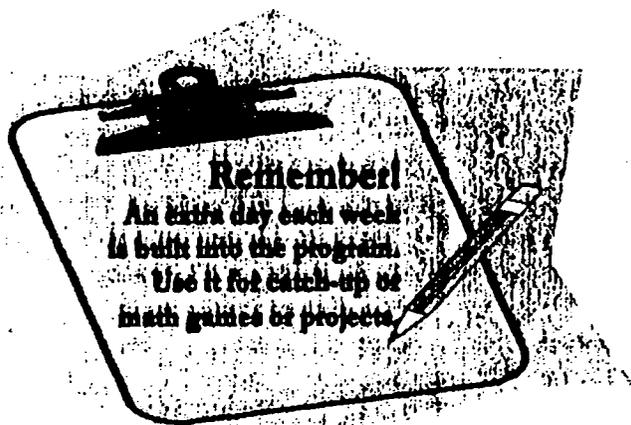
John Saxon
Norman, Oklahoma

PACING WHOLE-GROUP INSTRUCTION

When teaching the Saxon program through whole-group instruction, pacing is key. It is important that each student have the opportunity to complete the entire textbook doing the school year. The chart below offers guidance about the number of lessons that should be completed during each grading period.

SAXON PUBLISHING			SCHOOLS USING QUARTER/SEMESTER SYSTEM			
Edition	Title	Total No.	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
2nd	Math K*	112	1-28	29-56	57-84	85-112
2nd	Math Grade 1	130	1-32	33-65	66-97	98-130
2nd	Math Grade 2	132	1-35	36-70	71-100	101-132
2nd	Math Grade 3	140	1-35	36-70	71-105	106-140
2nd	Math Grade 4	140	1-35	36-70	71-105	106-140

* Does not include 5 lessons found in Meetings



Saxon Mathematics Curriculum
Grade: 4

II. Geometry and Measurement	
Content Standard 1: Students develop spatial sense, use shapes as an analytic and descriptive tool, identify characteristics and define shapes, identify properties and describe relationships among shapes. (Shape and Shape Relationships)	
<i>Objective</i>	<i>Lessons/Methodology</i>
1. Recognize and name familiar shapes in one, two, and three dimensions, such as lines, rectangles and spheres and informally discuss the shape of a graph.	M 125 90, 109, 123, 124 L 63, 70, 86.
2. Describe the attributes of familiar shapes.	M 125 90, 109, 123, 124 L 63, 70, 86.
3. Compare, sort, and classify familiar shapes.	M 125 90, 109, 123, 124 L 63, 70, 86.
4. Draw and build familiar shapes.	M 125 90, 109, 123, 124 L 63, 70, 86.
5. Explore ways to combine, dissect, and transform shapes.	M 125 90, 109, 123, 124 L 63, 70, 86.
6. Recognize parallel and perpendicular line segments and figures that have similarity and/or congruence.	M 64, 65, 67, 74, 112 L 64, 68, 90
7. Use shape, shape properties and shape relationships to describe the physical world and to solve problems.	M 64, 65, 67, 112, 125 70, 86, 90, 109, 123, 124 L 63, 64, 68.
Content Standard 2: Students identify locations of objects, identify location relative to other objects, and describe the effects of transformations (e.g., sliding, flipping, turning, enlarging, reducing) on an object. (Position)	
<i>Objective</i>	<i>Lessons/Methodology</i>
1. Locate and describe objects in terms of their position, including front, back, inside, outside, right, left, over, under, next to, between and locations on the number line, on a coordinate graph and on a map.	M 125 27, 32, 40, 82, 119, 134, 136 L 14, 15, 26.
2. Locate and describe objects in terms of their orientation, direction and relative position, including up, down, front, back, N-S-E-W, flipped, turned, translated; recognize symmetrical objects and identify their lines of symmetry.	M 125 70, 136 L 26, 40, 46.
3. Explore what happens to the size, shape, and position of an object after sliding, flipping, turning, enlarging, or reducing it.	M 125 L 46, 70
4. Use concepts of position, direction, and orientation to describe the physical world and to solve problems.	M 125 70, 136 L 26, 45, 46.

M=Meetings
L=Lessons

Grade: 4

Content Standard 3: Students compare attributes of two objects, or of one object with a standard (unit), and analyze situations to determine what measurement(s) should be made and to what level of precision. (Measurement)	
Objective	Lessons/Methodology
1. Compare attributes of objects; develop standard units of measurement; and select and use standard tools for measurement.	M 38, 39, 44, 57, 131, 132, 133, 135, 136, 138, 139 L 14, 15, 18, 19, 30, 37, 40, 42, 49, 61, 68, 119, 131, 134
2. Identify the attribute to be measured and select the appropriate unit of measurement for length, mass (weight), area, perimeter, capacity, time, temperature, and money.	M 38, 39, 44, 57, 131, 132, 133, 135, 136, 138, 139 L 14, 15, 18, 19, 23, 30, 33, 34, 37, 40, 42, 49, 61, 68, 77, 78, 104, 119, 131, 134
3. Develop strategies for estimating measures and compare the estimates to the results of the measurement; decide if an estimate is a "good estimate."	M 38, 39, 44, 57, 131, 132, 133, 135, 136, 138, 139 L 37, 73, 84, 85, 122, 137
4. Explain the meaning of measurements and recognize that the number of units it takes to measure an object is related to the size of the unit.	M 38, 39, 44, 57, 131, 132, 133, 135, 136, 138, 139 L 7, 14, 15, 18, 19, 23, 30, 33, 34, 37, 40, 42, 45, 49, 61, 68, 77, 78, 104, 119, 131, 134
5. Explore scale drawings, models, and maps and relate them to measurement of real objects.	M 38, 39, 44, 57, 131, 132, 133, 135, 136, 138, 139 L 18, 19, 40, 104
6. Apply measurement to describe the real world and to solve problems.	M 38, 39, 44, 57, 131, 132, 133, 135, 136, 138, 139 L 7, 14, 15, 18, 19, 23, 30, 33, 34, 37, 40, 42, 49, 61, 68, 77, 78, 104, 119, 131, 134
III. Data Analysis and Statistics	
Content Standard 1: Students collect and explore data, organize data into a useful form, and develop skill in representing and reading data displayed in different formats. (Collection, Organization, Presentation of Data)	
Objective	Lessons/Methodology
1. Collect and explore data through counting, measuring, and conducting surveys and experiments.	M 49, 52, 57 L 2, 4, 10, 57, 105, 110, 120
2. Organize data using concrete objects, pictures, tallies, tables, charts, diagrams, and graphs.	M 49, 52, 57 L 2, 3, 10, 12, 49, 51, 57, 105, 140
3. Present data using a variety of appropriate representations and explain the meaning of the data.	M 49, 52, 57 L 2, 3, 10, 12, 49, 51, 57, 105, 140
4. Identify what data are needed to answer a particular question or solve a given problem, and design and implement strategies to obtain, organize, and present those data.	M 49, 52, 57 L 2, 3, 4, 10, 12, 49, 51, 57, 105, 111, 120, 140
Content Standard 2: Students examine data and describe characteristics of a distribution, relate data to the situation from which they arose, and use data to answer questions convincingly and persuasively. (Description and Interpretation)	
Objective	Lessons/Methodology

M=Meetings
L=Lessons

Grade: 4

1. Read and explain data they have collected and organized themselves and progress to reading data from other sources.	M 49, 52, 57 49, 51, 57, 105, 140	L 2, 3, 10, 12,
2. Describe the shape of the data using informal language.	M 49, 52, 57 49, 51, 57, 105, 140	L 2, 3, 10, 12,
3. Draw, explain, and justify conclusions, such as trends, based on data.	M 49, 52, 57 105, 110, 120	L 2, 4, 10, 57,
4. Raise and answer questions about the source, collection, organization, and presentation of data, as well as the conclusions drawn from the data; explore biases in the data.	M 49, 52, 57 105, 110, 120	L 2, 4, 10, 57,
5. Formulate questions and problems and gather and interpret data to answer those questions.	M 49, 52, 57 105, 110, 120	L 2, 4, 10, 57,
Content Standard 3: Students draw defensible inferences about unknown outcomes, make predictions, and identify the degree of confidence they have in their predictions. (Inference and Prediction)		
Objective	Lessons/Methodology	
1. Make and test hypothesis.	M 111, 113	L 4, 110, 120
2. Conduct surveys, samplings, and experiments to solve problems and answer questions of interest to them.	M 111, 113	L 4, 110, 120
3. Formulate and communicate arguments and conclusions based on data and evaluate their arguments and those of others.	M 111, 113	L 4, 110, 120
4. Make and explain predictions based on data.	M 111, 113	L 4, 110, 120
5. Make predictions to answer questions and solve problems.	M 111, 113	L 4, 110, 120
IV. Number Sense and Numeration		
Content Standard 1: Students experience counting and measuring activities to develop intuitive sense about numbers, develop understanding about properties of numbers, understand the need for and existence of different sets of numbers, and investigate properties of special numbers. (Concepts and Properties of Numbers)		
Objective	Lessons/Methodology	
1. Develop an understanding of whole numbers and read, write, and count using whole numbers; investigate basic concepts of fractions and decimals.	M 3-4, 14, 18, 20, 25, 40, 47, 49, 53, 54, 55, 68, 69, 70, 78, 83-87, 89, 90, 97-99, 104, 118, 124, 139	L 12, 13, 24, 31, 52, 53, 56, 57, 83, 84, 89, 119, 121, 125, 129
2. Investigate and develop an understanding of the base-10 place-value system.	M 25, 40, 47, 49, 53, 54, 55, 69, 70	L 12, 13, 24, 31, 52, 53, 56, 57
3. Develop an understanding of the properties of numbers (e.g., order) and of the properties of the special numbers 0 and 1.	M 5, 25, 116	L 48
4. Apply their understanding of number systems to model and solve problems.	M 1-140 43, 59, 69, 138	L 4, 10, 22,

M=Meetings
L=Lessons

Grade: 4

Content Standard 2: Students recognize that numbers are used in different ways such as counting, measuring, ordering and estimating, understand and produce multiple representations of a number, and translate among equivalent representations. (Representation and Uses of Numbers)

Objective	Lessons/Methodology
1. Represent whole numbers, fractions and decimals using concrete, pictorial and symbolic representations.	M 3-4, 14, 18, 20, 25, 40, 47, 49, 53, 54, 55, 68, 69, 70, 78, 83-87, 89, 90, 97-99, 104, 118, 124, 139 L 12, 13, 24, 31, 52, 53, 56, 57, 83, 84, 89, 119, 121, 125, 129
2. Explore and recognize different representations for the same number and explain why they are the same.	M 25, 40, 47, 49, 53, 54, 55, 69, 70 L 12, 13, 24, 31, 52, 53, 56, 57
3. Investigate ways numbers are used (e.g., counting, ordering, naming, locating, measuring).	M 25, 40, 47, 49, 53, 54, 55, 69, 70 L 12, 13, 24, 31, 52, 53, 56, 57
4. Develop strategies for estimating quantity and evaluate the reasonableness of their estimates.	M 17, 25, 34, 35, 36, 37, 39, 40, 42, 43, 46, 48, 62, 92, 93, 95, 96, 97, 99, 119, 120, 121, 122, 123, 124-140 L 13, 32, 38, 39, 118, 126, 135
5. Select appropriate numbers and representations in order to solve problems.	M 1-140 L 11, 12, 14, 15, 19, 20, 29, 30, 32, 37, 40, 43, 45, 53, 60, 64, 68, 69, 70, 71, 72, 73, 77, 83, 85, 86, 87, 89, 90, 91, 94, 95, 103, 104, 109, 111, 120, 122, 124, 127, 130, 131, 135

Content Standard 3: Students investigate relationships such as equality, inequality, inverses, factors, and multiples, and represent and compare very large and very small numbers. (Number Relationships)

Objective	Lessons/Methodology
1. Compare and order numbers using "equal," "less than," or "greater than."	M 27, 40, 54, 63 L 24, 57
2. Use part-whole relationships to explore numbers, develop number concepts, and understand computation.	L 5, 18, 25, 63, 64, 67, 75, 94
3. Classify numbers as even or odd and explore concepts of factors and multiples.	M 26, 34, 51, 52, 53, 54, 58, 82, 113, 117, 120, 121, 122, 123-125, 127 L 6
4. Apply their understanding of number relationships in solving problems.	M 1-140 L 11, 12, 14, 15, 19, 20, 29, 30, 32, 37, 40, 43, 45, 53, 60, 64, 68, 69, 70, 71, 72, 73, 77, 83, 85, 86, 87, 89, 90, 91, 94, 95, 103, 104, 109, 111, 120, 122, 124, 127, 130, 131, 135

M=Meetings
L=Lessons

Grade: 4

V. Numerical and Algebraic Operations and Analytical Thinking	
Content Standard 1: Students understand and use various types of operations (e.g. addition, subtraction, multiplication, division) to solve problems. (Operations and their Properties).	
<i>Objective</i>	<i>Lessons/Methodology</i>
1. Use manipulatives to model operations with numbers; develop their own methods of recording operations; and relate their models and recordings to standard symbolic expressions and algorithms.	L 5, 18, 25, 63, 64, 67, 75, 94
2. Develop and apply the appropriate method of computation from among mental computation, estimation, paper-and-pencil, or calculators; explain why they are choosing a method and how they know which operations to perform in a given situation.	M 1-140 L 6, 8, 11, 16, 21, 22, 25, 28, 29, 36, 43, 48, 54, 55, 58, 59, 69, 74, 75, 76, 79, 81, 88, 92, 102, 113, 115, 116, 126, 130
3. Explore properties of operations (e.g. Commutative and distributive properties) and give examples of how they use those properties.	M 5, 25, 116 L 48
4. Apply operations efficiently and accurately in solving problems.	M 1-140 L 11, 12, 14, 15, 19, 20, 29, 30, 32, 37, 40, 43, 45, 53, 60, 64, 68, 69, 70-73, 77, 83, 85-91, 94, 95, 103, 104, 111, 120, 122, 124, 127, 130, 131, 135
Content Standard 2: Students analyze problems to determine an appropriate process for solution and use algebraic notations to model or represent problems. (Algebraic and Analytic Thinking)	
<i>Objective</i>	<i>Lessons/Methodology</i>
1. Write and solve open sentences (e.g., $+ = 5$) and write stories to fit the open sentence.	M 26, 34, 51, 52, 56-58, 82, 113, 117, 120-125, 127 L 9, 62, 106
2. Explore algebraic concepts with manipulatives such as balance scales, tables of input and output, and pictorial representations of problems.	L 106
3. Find replacements for the variable(s) in open sentences.	M 26, 34, 51, 52, 56-58, 82, 113, 117, 120-125, 127 L 9, 62, 106
4. Use analytic thinking to describe situations and solve problems.	M 26, 34, 51, 52, 56-58, 82, 113, 117, 120-125, 127 L 9, 62, 106
VI. Probability and Discrete Mathematics	
Content Standard 1: Students develop an understanding of the notion of certainty and of probability as a measure of the degree of likelihood that can be assigned to a given event based on the knowledge available, and make critical judgements about claims that are made in probabilistic situations. (Probability)	
<i>Objective</i>	<i>Lessons/Methodology</i>
1. Explain the difference between chance and certainty and give examples to illustrate their understanding.	M 111, 113 L 4, 110, 120
2. Compare events and describe them as "more likely" or "less likely" and use the language of fractions to describe simple probabilities.	M 111, 113 L 4, 110, 120
3. Conduct experiments with concrete objects to explore concepts and develop an intuitive understanding of how the conditions of the experiment can affect the outcome.	M 111, 113 L 4, 110, 120

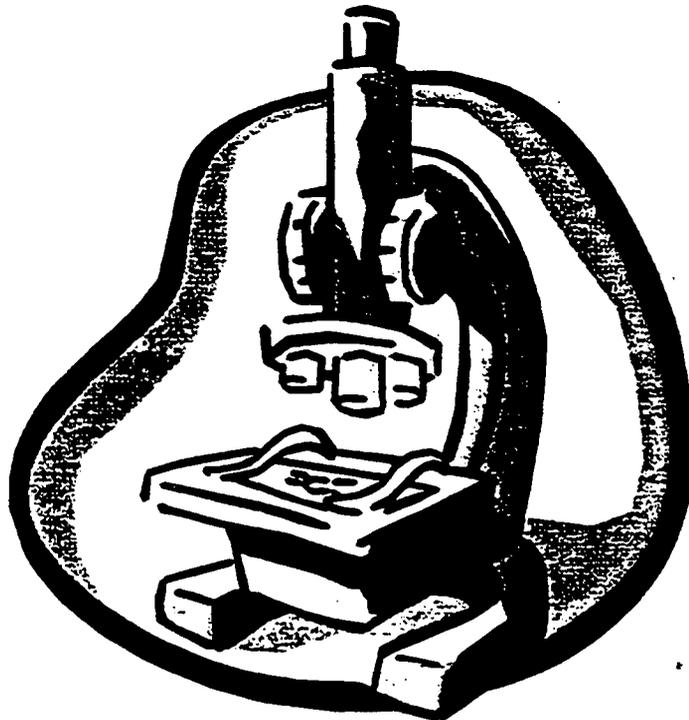
M=Meetings
L=Lessons

4. Conduct experiments, record the outcomes, examine those outcomes to determine if they make sense, and search for explanations of the outcomes.	M 111, 113	L 4, 110, 120
5. Conduct probability experiments and simulations to model and solve problems.	M 111, 113	L 4, 110, 120
Content Standards 2: Students investigate practical solutions such as scheduling, routing, sequencing, networking, organizing and classifying, and analyze ideas like recurrence relations, induction, iteration, and algorithm design. (Discrete Mathematics)		
Objective	Lessons/Methodology	
1. Use manipulatives and diagrams to explore problems involving counting and arranging objects.	M 25, 40, 47, 49, 53, 54, 55, 69, 70	L 12, 13, 24, 31, 52, 53, 56, 57
2. Explore sets and set relationships by sorting and classifying objects.	M 125	L 63, 70, 86, 90, 109, 123, 124
3. Explore situations in which they model and trace paths using figures consisting of vertices connected by edges.	M 125	L 70, 86, 90, 123, 124
4. Explore now-next patterns.	M 10, 31, 33, 108-117, 126	L 9, 21, 25, 29, 34, 61, 99, 100, 106, 133
5. Explore develop, and invent their own algorithms to accomplish a task or to solve numerical problems.	M 1-140	L 4, 9, 22, 59, 71, 72, 86, 87, 91, 106
6. Use discrete mathematics concepts described above to model situations and solve problems; and look for whether or not there is a solution (existence problems), determine how many solutions there are (counting problems), and decide upon a best solution (optimization problems).	L 26, 51, 55, 73, 118, 120	

M=Meetings
L=Lessons

SCIENCE FOURTH GRADE

**NHA Science Philosophy
Content Standards and Objectives
Science Objective Summaries/Links
Grade Level Schedule
The Teaching of Origins**



NHA SCIENCE PHILOSOPHY

National Heritage Academies believes in excellence in science education. Our curriculum is based on:

NHAGOSE Standards (National Heritage Goals and Objectives for Science Education)

Nhagose standards are the state requirements of what all students need to know and be able to do in the subject of Science. A state standardized assessment tool is used to provide feedback on how well the objectives have been covered. Our curriculum has been carefully aligned so as to cover these objectives and skills consistently throughout all grades.

Core Knowledge (content objectives)

The Core Knowledge Sequence represents a first and ongoing attempt to state specific core knowledge that children should learn. It is designed to encourage steady academic progress as children build their knowledge from one year to the next. Core Knowledge objectives cover much of the same information as the state standards, thus, they are not listed twice. For those objectives/units that are specific to Core Knowledge, they are labeled as such and should be covered when possible. It is National Heritage Academies' goal for the Core Knowledge to account for approximately 50% of the science curriculum.

NHA teachers play significant role in the creation of our science curriculum. Besides the extensive work of our science specialist, Randy Creswell, many teachers have contributed time and effort into writing units and/or committee work where much of our information such as experiment tables were compiled.

Our teachers plan their lessons using the content objectives and lesson ideas presented in the binder. Principals will provide the materials and resources needed to accompany the plans.

*SCIENTIFICALLY LITERATE STUDENTS KNOW HOW TO... USE KNOWLEDGE...
TO ENGAGE IN ACTIVITIES... IN REAL-WORLD CONTEXTS.*

I. CONSTRUCT NEW SCIENTIFIC AND PERSONAL KNOWLEDGE	
Content Standard 1: All students will ask questions that help them learn about the world; design and conduct investigations using appropriate methodology and technology; learn from books and other sources of information; communicate their findings using appropriate technology; and reconstruct previously learned knowledge. (Constructing New Scientific Knowledge)	
Objective	Lessons/Methodology
1. Generate reasonable questions about the world based on observation.	C1
2. Develop solutions to unfamiliar problems through reasoning, observation, and/or experiment.	C2
3. Manipulate simple mechanical devices and explain how they work.	C3
4. Use simple measurement devices to make metric measurement.	C4
5. Develop strategies and skills for information gathering and problem solving.	C5
6. Construct charts and graphs and prepare summaries of observations.	C6
II. REFLECT ON THE NATURE, ADEQUACY AND CONNECTIONS ACROSS SCIENTIFIC KNOWLEDGE	
Content Standard 2: All students will analyze claims for their scientific merit and explain how scientists decide what constitutes scientific knowledge; how science is related to other ways of knowing; how science and technology affect our society; and how people of diverse cultures have contributed to and influenced developments in science. (Reflecting on Scientific Knowledge)	
Objective	Lessons/Methodology
1. Develop an awareness of the need for evidence in making decisions scientifically.	R1
2. Show how science concepts can be interpreted through creative expression such as language arts and fine arts.	R2
III. USING SCIENTIFIC KNOWLEDGE IN LIFE SCIENCE	
Content Standard 1: All students will apply an understanding of cells to the functioning of multicellular organisms; and explain how cells grow, develop, and reproduce.	
Objective	Lessons/Methodology
1. Describe cells as living systems.	LC 1
Content Standard 2: All students will use classification systems to describe groups of living things; compare and contrast differences in the life cycles of living things; investigate and explain how living things obtain and use energy; and analyze how parts of living things are adapted to carry out specific functions.	
Objective	Lessons/Methodology
1. Compare and classify familiar organisms on the basis of observable physical characteristics.	LO 1

2. Describe vertebrates in terms of observable body parts and characteristics.	LO 2
3. Describe life cycles of familiar organisms.	LO 3
4. Compare and contrast food, energy, and environmental needs of similar organisms.	LO 4
5. Explain how physical and / behavioral characteristics of organisms help them to survive in their environment.	LE 2
6. Describe functions of selected seed plant parts.	LO 5
Content Standard 3: All students will investigate and explain how characteristics of living things are passed on through generations; explain why organisms within a species are different from one another; and explain how new traits can be established by changing or manipulating genes.	
Objective	Lessons/Methodology
1. Give evidence that characteristics are passed from parents to young.	LH 1
Content Standard 4: All students will explain how scientists construct and scientifically test theories concerning the origin of life and evolution of species; compare ways that living organisms are adapted (suited) to survive and reproduce in their environments; and analyze how species changes through time.	
Objective	Lessons/Methodology
1. Explain how fossils provide evidence about the nature of ancient life.	LE 1
2. Explain how physical and / or behavioral characteristics of organisms help them to survive in their environments	LE 2
Content Standard 5: All students will explain how parts of an ecosystem are related and how they interact; explain how energy is distributed to living things in an ecosystem; investigate and explain how communities of living things change over a period of time; describe how materials cycle through an ecosystem and get reused in the environment; and analyze how humans and the environment interact.	
Objectives	Lessons/Methodology
1. Identify familiar organisms as part of a food chain or food web and describe their feeding relationships within the web.	LEC 1
2. Explain common patterns of interdependence and interrelationships of living things.	LEC 2
3. Describe the basic requirements for all living things to maintain their existence.	LEC 3
4. Describe systems that encourage growing of particular plants and animals.	LEC 4
5. Describe positive and negative effects of humans on the environment.	LEC 5

IV. USING SCIENTIFIC KNOWLEDGE IN PHYSICAL SCIENCE	
Content Standard 1: All students will measure and describe the things around us; explain what the world around us is made of; identify and describe forms of energy; and explain how electricity and magnetism interact with matter.	
Objective	Lessons/Methodology
1. Classify common objects according to observable attributes.	PME 1
2. Measure weight, dimensions, and temperature of appropriate objects and materials.	PME 2
3. Identify properties of materials that make them useful.	PME 3
4. Identify forms of energy associated with common phenomena.	PME 4
5. Describe the interaction of magnetic materials with other magnetic materials and non-magnetic materials.	PME 5
6. Describe the interaction of charged materials with other charged or uncharged materials.	PME 6
7. Describe possible electrical hazards to be avoided at home and at school.	PME 7
Content Standard 2: All students will investigate, describe and analyze ways in which matter changes; describe how living things and human technology change matter and transform energy; explain how visible changes in matter are related to atoms and molecules; and how changes in matter are related to changes in energy.	
Objective	Lessons/Methodology
1. Describe common physical changes in matter (size, shape, melting, freezing, dissolving).	PCM 1
2. Prepare mixtures and separate them into their component parts.	PMC 2
3. Construct simple objects that fulfill a technological purpose.	PMC 3
Content Standard 3: All students will describe how things around us move and explain why things move as they do; demonstrate and explain how we control the motions of objects; and relate motion to energy and energy conversions.	
Objects	Lessons/Methodology
1. Describe or compare motions of common objects in terms of speed and direction.	PMO 1
2. Describe how forces (pushes or pulls) speed up, slow down, stop, or change the direction of a moving object.	PMO 2
3. Use simple machines to make work easier.	PMO 3
Content Standard 4: All students will describe sounds and sound waves; explain shadows, color, and other light phenomena; measure and describe vibrations and waves; and explain how waves and vibrations transfer energy.	
Objectives	Lessons/Methodology
1. Describe sound in terms of its properties.	PWV 1
2. Explain how sounds are made.	PWV 2
3. Describe light from a source in terms of its properties.	PWV 3

4. Explain how light illuminates objects.	PWV 4
5. Explain how shadows are made.	PWV 5
V. USING SCIENTIFIC KNOWLEDGE IN EARTH SCIENCE	
Content Standard 1: The Geosphere. All students will describe the earth's surface; describe and explain how the earth's features change over time; and analyze effects of technology on the earth's surface and resources.	
Objective	Lessons/Methodology
1. Describe major features of the earth's surface.	EG 1
2. Recognize and describe different types of earth materials.	EG 2
3. Explain how rocks and fossils are used to understand the history of the earth.	EG 3
4. Describe the natural changes in the earth's history.	EG 4
5. Describe uses of materials taken from the earth.	EG 5
6. Demonstrate means to recycle manufactured materials and a disposition towards recycling.	EG 6
Content Standard 2: The Hydrosphere. All students will demonstrate where water is found on earth; describe the characteristics of water and how water moves; and analyze the interaction of human activities with the hydrosphere.	
Objective	Lessons/Methodology
1. Describe how water exists on the earth in three states.	EH 1
2. Describe various forms that water takes on the earth's surface and conditions under which they could exist.	EH 2
3. Trace the path that rain water travels after it falls.	EH 3
4. Describe how rainwater in Michigan reaches the ocean.	EH 4
5. Identify sources of drinking water.	EH 5
6. Identify uses for water.	EH 6
7. Describe the origins of pollution in the hydrosphere.	EH 7
Content Standard 3: The atmosphere and weather. All students will investigate and describe what makes up weather and how it changes from day to day, from season to season and over long periods of time; explain what causes different kinds of weather; and analyze the relationships between human activities and the atmosphere.	
Objective	Lessons/Methodology
1. Describe the atmosphere.	EAW 1
2. Describe weather conditions and climate.	EAW 2
3. Describe seasonal changes in weather.	EAW 3
4. Explain appropriate safety precautions during severe weather.	EAW 4

Content Standard 4: The Solar System, Galaxy, and Universe. All students will compare and contrast our planet and sun to other planets and star systems; describe and explain how objects in the solar system move; explain scientific theories as to the origin of the solar system; and explain how we learn about the universe.

Objective	Lesson/Methodology
1. Describe the sun, moon, and earth.	ES 1
2. Describe the motions of the earth and moon around the sun.	ES 2

Science Objective Summaries and their Links:

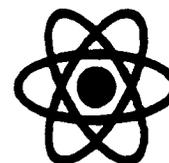
EAW	Earth Science	Atmosphere and Weather
EG	Earth Science	Geosphere
EH	Earth Science	Hydrosphere
ES	Earth Science	Space



LC	Life Science	Cells
LE	Life Science	Evolution
LEC	Life Science	Ecosystems
LH	Life Science	Heredity
LO	Life Science	Living Organisms



PCM	Physical Science	Changes in Matter
PME	Physical Science	Matter and Energy
PMO	Physical Science	Motion of Objects
PWV	Physical Science	Waves (Sound, Light, Pendulae)



RECOMMENDED SCIENCE SCHEDULE

GRADE FOUR

SEP

Sep 4	PCM 3	Scientific Method and small projects
Sep 10	LEC 1	Food Web/ Food Chain
Sep 17	LEC 2	Ecological Relationships
Sep 24	EH 1	Water on earth

OCT

Oct 1	EH 2	Water Processes-Ground Water
Oct 8	EH 2 / EG4	Water Processes-Rivers and watersheds
Oct 15	EH 3/ EH 4	Sources and Uses of Water
Oct 22	EG 1	Surface Features
Oct 29	EG 2 / EG 5	Earth Materials

NOV

Nov 5		Science Reading and Writing for Content
Nov 12	EG 2 / EG 5	Earth Materials
Nov 19		Science Reading and Writing for Content
Nov 26	EG 3/ LE 1	Earth's History

DEC

Dec 3	EG 4	Changes in the Earth's Surface
Dec 10	EG 4	Changes in the Earth's Surface
Dec 17		Science reading and Writing for Content

JAN

Jan 3	LC 1	Cells
Jan 7	LC 1	Cells
Jan 14	LH 1	Heredity
Jan 21	LH1	Heredity
Jan 28	PME 1	Classifying Matter

FEB

Feb 4	PME 4	Energy
Feb 11		Science Reading and Writing for Content
Feb 18	PME 4	Energy
Feb 25	PCM 1	Physical Changes

MAR

Mar 4	PCM 1	Physical Changes
Mar 11	PCM 2	Separating Mixtures
Mar 18		Guided Investigation
Mar 25		Science Reading and Writing for Content

APRIL

April 8	EAW 1	Atmosphere
April 15	EAW 1	Atmosphere
April 22	EAW 2	Weather and Climate
April 29	LEC 5 / EG 6	Recycling

MAY

May 6	EAW 2	Weather and Climate
May 13	EAW 3/ EAW 4	Seasonal Change: Tilt of the Earth
May 20	PMO 1/ PMO 2	Motion and Forces Review
May 28		Science Project: Rubber Band Powered Vehicle

JUNE

June 3		Science Project: Rubber Band Powered Vehicle
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The Teaching of Origins National Heritage Academies

National Heritage Academies recognizes that the teaching of origins is a topic that generates passionate debate because it touches deeply at the core of many people's strongly held beliefs. In no way does NHA seek to undermine the beliefs held by each family unit within our schools. Rather, we support the parents' rights to instruct their children on these topics.

At the same time, National Heritage Academies is required to teach according to state standards. NHA is committed to teaching the state's educational objectives in each state in which we are granted a charter. To that end, NHA has a system of objectives called NHAGOSE Standards (National Heritage Academies Goals of Science Education) that are based on Michigan state standards and have been expanded to include those of other states as well as the Core Knowledge Sequence. These NHAGOSE Standards have been approved state by state with our charters as meeting or exceeding state standards.

In teaching science at the elementary and middle school levels, NHA is committed to four teaching strategies. These are:

1. teaching basic facts;
2. teaching science skills (making graphs and tables, measuring, etc.);
3. teaching science models and their limitations;
4. teaching thinking skills to combine all the above into a coherent view of the universe.

The Core Knowledge Sequence focuses on points one and two above. Different state standards are blends of the four areas. Our NHAGOSE Standards have been written to implement these ideas in a way that covers all domains of science in age-appropriate ways.

Objective Standards

The attached appendices are a complete description of the three objectives related to evolution. The summarized objectives are:

- LE 1 - Explain how fossils provide evidence about the nature of ancient life.
- LE 2 - Explain how physical and/or behavioral characteristics of organisms help them to survive in their environments.
- LE 3 - Describe how biologists might trace possible evolutionary relationships among present and past life forms.

Note: LE 1 and LE 2 are elementary objectives and LE 3 is a middle school objective.

Philosophies, Ideology and Religion

It is required that all National Heritage Academies' schools teach science. The teaching of science necessitates teaching to objectives. In the process of teaching these objectives, we:

- teach basic facts;
- teach science skills (make graphs and tables, measurement...);
- teach science models and their limitations;
- teach thinking skills to combine all the above into a coherent view of the universe.

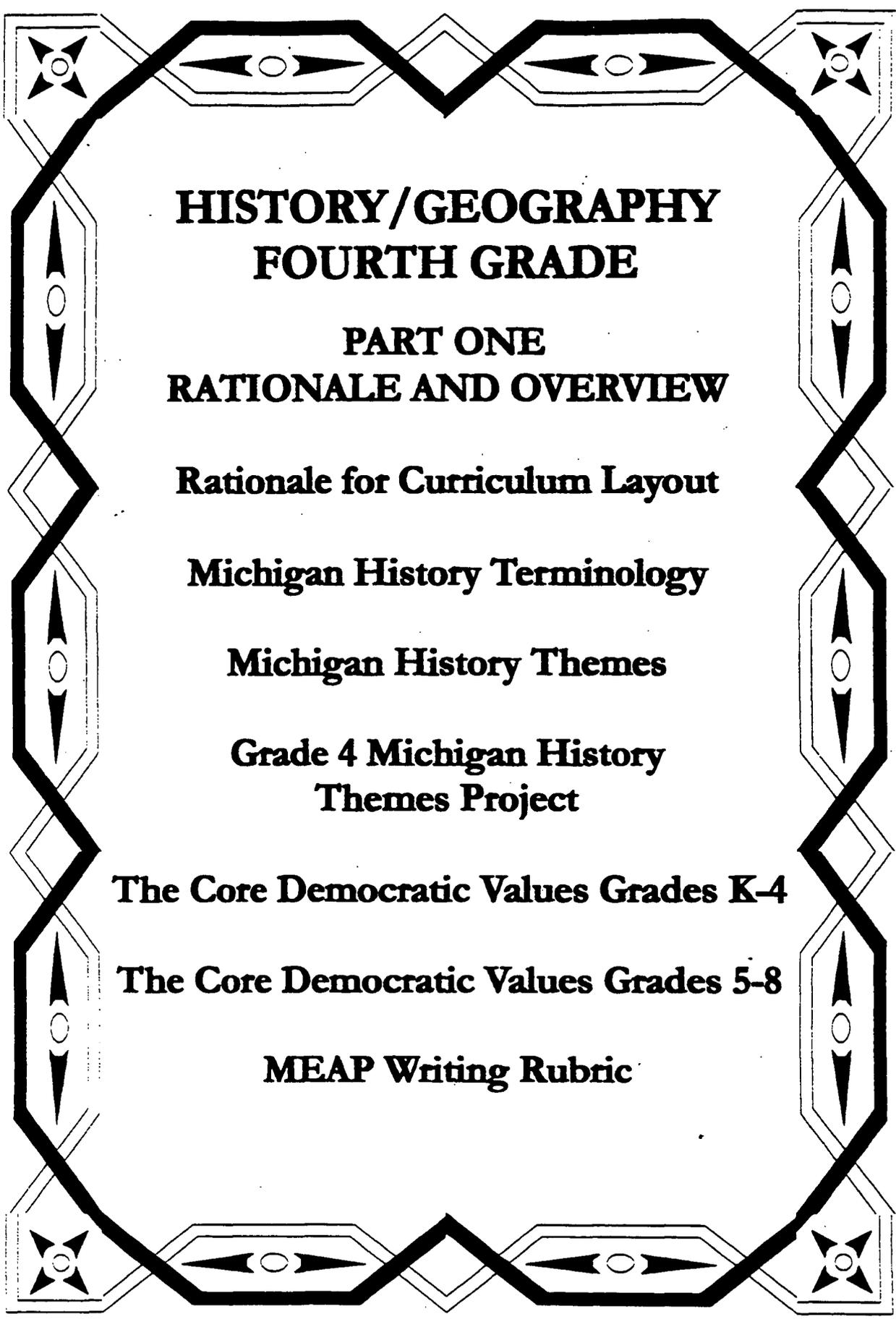
We do not teach any particular philosophy, ideology and/or religion that are not stated in our objectives.

We do not teach ideology or naturalistic religion. To the extent that evolution is concerned with fossils (and deductions from them), adaptations of plants and animals to environments, we teach these as testable, observable domains in which we legitimately practice scientific inquiry. In LE 3 we recognize evolution to be a working tool of the life sciences, which all students, regardless of their belief structures, should understand. Note that this objective does not insist that all biologists are evolutionists, mandate that evolutionary relationships are facts and laws like Newtonian Mechanics, or require that anyone believe the evolutionary relationships. The objective does require that we teach all students to understand how some biologists have reached certain conclusions.

Each of the listed objectives is tied in our curriculum to a related body of knowledge. LE 1 is tied to geology and is integrated with geology units. LE 2 is tied to the study of living organisms, their character and diversity. LE 3 is taught with units on cell biology and heredity. The result is that we are teaching science, of which these objectives are a part.

We do not teach creationism or scientific creationism. We do not have any labeled objectives for creationism. There are matters on which some scientific creationists will focus such as erosion (dealt with in EG 4, EG 10, EH 2 and EH 6) or density (PME 8). These topics are taught, but as issues of science, not as issues of creationism.

In all of our teaching, we are helping students both develop and critique models of the universe, recognizing that models have value in helping us to think, plan, and make conclusions. We also seek to help students recognize that models are simplifications of reality and are thus always subject to the limitations of our finite minds.



**HISTORY/GEOGRAPHY
FOURTH GRADE**

**PART ONE
RATIONALE AND OVERVIEW**

Rationale for Curriculum Layout

Michigan History Terminology

Michigan History Themes

**Grade 4 Michigan History
Themes Project**

The Core Democratic Values Grades K-4

The Core Democratic Values Grades 5-8

MEAP Writing Rubric

RATIONALE FOR CURRICULUM LAYOUT

MICHIGAN

The History Themes Project: This effort was created for Michigan teachers and students to provide a reasonable and valid list of important events, people, and ideas for United States and Michigan History. This reasonable and valid list is known as "Posthole Events."

Purpose: Why Did We Need a History Themes Project?

The content standards and benchmarks for social studies in the Michigan Curriculum Framework are very specific about how we expect students to use historical knowledge. The four Michigan History Content Standards which reflect the National History Standards, ask students to be able to:

- use time and chronology of important historical events in the history of the United States to explain cause and effect
- to show a comprehension of the past by being able to tell the story of the past using important events, places and people from the past
- to use primary and secondary source documents to analyze the past from a variety of points of view
- to judge decisions from the past

While the content standards are specific regarding the acquisition of an historical perspective, they do not tell teachers and their students which historical events and people are important. The goal of both the Curriculum and MEAP Offices at the Department of Education and the Department of Treasury is to maintain a perfect alignment between the benchmarks and the social studies MEAP tests at grades 5, 8, and 11.

At the fourth grade, students are preparing for the fifth grade MEAP. Therefore, it is important that fourth grade teachers and students understand the Michigan Themes Project and align it with their curriculum. National Heritage Academies has done just that. The History/Geography portion of the curriculum handbook makes use of the postholes, themes, definitions and descriptions in a complete manner for future fifth grade MEAP preparation.

NORTH CAROLINA

Teachers are to use their state book for the first semester.

Teachers are to use the Core Knowledge objectives for the second semester.

NEW YORK

Teachers are to use their state book for the first semester.

Teachers are to use the Core Knowledge objectives for the second semester.

*** Note: For ease of use, you will find state names at the bottom of each page. These indicate which pages apply to your teaching.**

MICHIGAN HISTORY TERMINOLOGY

THEMES: Themes add a dimension to history that is vital if students are to make sense of it. Emphasizing a limited number of ideas with students adds depth to a student's developing understanding of history. Having a handful of big ideas in mind at the beginning of the year adds purpose to the selection of the details that a teacher will present.

POSTHOLE EVENT

The important date and the historical event associated.

BENCHMARK

Benchmarks provide indicators of student expectations at various developmental levels. They indicate what students should know and be able to do.

ALIGNMENT

The alignment of the curriculum is what students are responsible for learning in a course or subject. It is critical that every unit and lesson is intentionally designed to meet the learning goals of the course. The NHA curriculum content is designed to support national and state standards and state and standardized tests.

Benefits

- Aligning curriculum ensures that students are well prepared for assessments
- Aligning curriculum ensures that students achieve the standards
- Consistency across grade levels
- Aids In the collaboration among all teachers
- Bridges the gap between what students should Know and Do and the Teaching and Learning Process

CORE DEMOCRATIC VALUES (Kindergarten – grade 4 definition)

The core democratic values are the ideas in which Americans believe. We do not look the same. We like different things. We each think differently. There are some ways that we are the same. We believe in telling the truth. We believe in treating people fairly. To be good citizens we must practice these values each day at home and school.

CORE DEMOCRATIC VALUES (Grades 5-8 definition)

Core Democratic Values are the fundamental beliefs and constitutional principals of American society, which unite all Americans. These values are expressed in the Declaration of Independence, the United States Constitution and other significant documents, speeches, and writings of the nation.

CONCLUSION

Closely examine the relationship between the theme and the posthole events that have been identified to illustrate them. The state of Michigan along with NHA believes that they will provide a framework that will be a powerful aid to promoting historical understanding in your students.

MICHIGAN

Michigan History Themes

Theme 1: The movement of people, the spread and interaction of cultures and technological innovations continue to shape Michigan. (Civilization, Cultural Diffusion, and Innovation)

A major theme in history is civilization, cultural diffusion and innovation; these concepts deal with the spread of tools, machines, traditions, lifestyles, laws, practices and ideas. To understand history we need to look at how groups of people have interacted, their goals, tools and inventions. Teachers of social studies must help students recognize the fluid interplay between different groups and the struggle to maintain a group identity while absorbing and accommodating change. Often once an idea has been unleashed it cannot be contained and frequently causes an unanticipated transformation---the process of diffusion.

Human groups continually influence each other's lifestyles, whether by intention or not. For example, Europeans used technology to explore and trade. Their actions and values dominated Native Americans, forever changing the lifestyle of native peoples. A prohibition against reading and writing by enslaved Africans was once used to dominate African Americans, yet it has become an important means of expression of African American culture. Political rights, originally reserved only for white male property owners, once unleashed, could not be denied to women and minorities.

The spread and use of ideas and inventions among people causes them to change and evolve. The Internet allows for an unprecedented simultaneous worldwide exchange of ideas. Informal, instantaneous global conversation has implications far beyond what traditional institutions such as government and schools have been established to manage. So they too are changing, transformed by innovation.

Benchmark Alignment: I.2LE.1, I.2LE3, I.3LE3, II.1LE2, II.2LE4, II.3LE3, II.3LE4, II.5LE1, III.5LE2, IV.4LE3

Theme 2: The geography and natural resources of Michigan greatly influence the development of the state. (Human Interaction with the Environment)

Humans influence each other, just as they interact with the natural environment. Events in history need to be seen in light of the struggles of humans to master nature by developing ways to use and control the environment.

Michigan's lumber industry drew thousands of people each year to both work in the forests and to stake out land to start a farm.. The depletion of mature forests in the east and the high demand for lumber in eastern cities as well as Europe, drove the logging out process. Within less than 50 years Michigan's prime evil forests were gone. The vistas of cut-over lands made the once spectacular landscape look like a war zone and changed some of the ecosystems and animal habitats forever.

Benchmark Alignment: I.1LE2, I.2LE1, I.3LE1, I.4LE2, II.2LE3, II.2LE4, II.3LE1, II.3LE3, II.3LE4, II.4LE3, II.4LE5, IV.1LE1, IV.2LE1, IV.2LE3, IV.4LE3, IV.5LE3

Theme 3: Values and new ideas have influenced change and continue to challenge the people of Michigan. (Values, Beliefs, Economics, Political Ideas and Institutions)

How people organize themselves into political, religious, social, and economic groups is important to an understanding of history and modern life. An accurate understanding of why events occurred as they did is dependent on knowledge of the beliefs that were reflected in the institutions of the time. The relationships between the choices people make about how social structures allot the use of, and access to, resources leads to an understanding of how beliefs and values become institutions over time. Often ideas begin as commonly held assumptions that assume a pattern and become an institution: a social structure that supports the values and beliefs of the dominant culture as they evolve.

Labor unions provide a window into how human beliefs; political ideas and distribution of resources develop into an institution. In the early 19th century prevailing legal and social opinions and economic structures did not favor the development of unskilled workers' organizations. Wages and the length of the workday were arranged directly in dealings between employers and individual workers. The disparity in power often led to abuse. The beliefs and values of trade unionists began to show in an organized way when they grouped together to form organizations. Eight-hour workdays and health and safety protection for workers were important rallying points. Gradually the beliefs of organized labor became assumptions about the rights of workers embraced by society. As a result, legislation protecting the right to organize and the right of unions to enter into collective bargaining agreements with employers followed. Today Americans accept the role of organized labor in many American businesses and governmental organizations. To achieve lasting learning, teachers of social studies need to help students identify the relationship between historical events and changing beliefs. Accepted beliefs often become assumptions that can evolve into institutions that support those beliefs.

Benchmark Alignment: III.1LE1, IV.3LE3, VI.2LE1

Theme 4: Michigan has been and continues to be shaped by conflicts resolved through cooperation and compromise. (Conflict and Cooperation)

Teachers of Social Studies provide students with a framework for understanding when they teach them that certain patterns of human behavior reoccur. Understanding how some behavior patterns repeat across time and space helps learners to make lasting connections. Much of American history can be meaningfully understood by viewing it in terms of cooperation and conflict. A complete look at American development must include ways people work together and cooperate during times of conflict as well as during times of peace. Furthermore, how we teach about conflict and cooperation affects our students' responses to these events in their own lives. Conflicts in Michigan history include resolution of some while others remain unresolved.

Students can learn to identify reoccurring patterns through key events in Michigan history. Even in times of great cooperation, there can also be great conflict. Students will, for example, identify and describe cooperative efforts during colonial times as a key to the survival of colonists. Yet at the same time, controversy and conflict over religion and

religious practices were also a part of colonial life. The social studies teacher brings the interplay between conflict and cooperation to light.

During World War II the cooperative efforts of women supported America's industrial military needs. Social studies teachers insightfully forge a deeper understanding of this era of international conflict when they also characterize it as an era of national cooperation. The ordinary concerns and social and economic inequalities experienced by many Americans continued to exist during this era of national cooperation and dedication to winning the war. It is from the teacher of social studies that the student will gain insight into our nation in which the ordinary, whether an element of conflict or cooperation, continues to exist side by side with the extraordinary. Students experience these same elements of conflict and cooperation in their own lives and social studies educators give students a powerful tool for lasting understanding by teaching learners how to see that these human patterns happen over and over and so connect history to the present.

Benchmark Alignment: I.3LE2, I.4LE1, I.4LE2, III.2LE2, VI.1LE2, VI.1LE3

Theme 5: The historical significance of Michigan's growth can be understood by comparing events in the state to regional, national, and world developments. (Comparative History of Major Developments)

We can use comparison and contrast as important teaching vehicles to see historical elements that are separated by space, time, gender or other variables. Looking at differences and similarities help us clarify our understanding of people, times, and places. It can also help us gauge the importance of the topics being studied. Helping our students draw these relationships can provide an opportunity to make them more humane and avoid mistakes from the past. These comparisons can be pathways to insights into our times and ourselves.

Students can deepen their own understanding of human development by looking at, for example, the events that led to abolition and the events that led to universal suffrage and how Michigan citizens promoted those compared to the rest of the United States. Students gain much greater depth of understanding about each group and the times in which they emerged when considered together. A comparative study of Native Peoples on the eve of colonization, and the first European settlers show connections and relationships to regions, cultures and legacies that would not necessarily surface if studied without conscious attention to their similarities and differences.

Benchmark Alignment: I.2LE2, I.4LE1, II.1LE1, II.1LE3, II.3LE2, II.4LE2

Theme 6: The experiences of common people create an understanding of social change connected to immigration, migration, and the industrialization of Michigan. (Patterns of Social and Political Interaction)

The teaching of history needs to include an understanding of the common people as well as the famous. History is incomplete without the daily culture of everyday people. Social history accesses the daily experiences of the men and women who lived during the time being studied. These men and women have left the record of their lives in their labor, poetry, stories, dances, songs, letters, and a myriad of other informal sources. When teachers of social studies put learners into the social context of the time, students meet ordinary people on their terms in their own times and see them as important contributors to key events. This provides students with multiple points of view and gives them a vehicle to engage in critical questioning of historical sources such as: Whose voice am I hearing and why? What might a factory worker, a woman, an African American have thought about this issue?"

We can teach students about these patterns of social and political interactions from many points of view. Primary source documentation includes such items as personal journal entries, photographs, and folk songs. By using these social elements as well as the more traditional sources of governmental records, laws, and textbooks, we allow the learner to have a fuller picture of lives of the people of the time. Students are better able to appreciate the hardships, efforts and contributions of common men and women to the larger events in history. The journalists of the Industrial Age gave a voice to working men, women and children. Songs of workers on the Erie Canal open a window to factors influencing Michigan's statehood.

Benchmark Alignment: I.2LE3, I.2LE4, I.4LE1, I.4LE2, VI.1LE2, VI.2LE1

Grade 4 Michigan History Themes Project

Native Cultures Beginnings to 1790

1. Hopewell
2. Three fires peoples- Anishinabeg
3. Huron Indians

Theme 2: Human Interaction with the Environment

Theme 1: Civilization, Cultural Diffusion and Innovation

Theme 1: Civilization, Cultural Diffusion and Innovation

French in Michigan 1630-1763

4. Pere Marquette/Joliet
5. Fur Trade
6. Cadillac and founding of Detroit

Theme 1: Civilization, Cultural Diffusion and Innovation

Theme 2: Human Interaction with the Environment

Theme 4: Conflict and Cooperation

British in Michigan 1760-1796

7. Pontiac's Rebellion
8. Proclamation of 1763
9. Fortifications at Mackinac Island

Theme 4: Conflict and Cooperation

Theme 3: Values, Beliefs, Economics, Political Ideas and Institutions

Theme 2: Human Interaction with the Environment

Americans Come to Michigan 1796-1815

10. Northwest Ordinance (1787)
11. Michigan becomes a territory
12. War of 1812

Theme 3: Values, Beliefs, Economics, Political Ideas and Institutions

Theme 3: Values, Beliefs, Economics, Political Ideas and Institutions

Theme 4: Conflict and Cooperation

Settlement and Statehood 1800-1850

13. Erie Canal
14. Pioneer Life
15. Toledo War

Theme 1: Civilization, Cultural Diffusion and Innovation

Theme 2: Human Interaction with the Environment

Theme 4: Conflict and Cooperation

Civil War 1830-1850

16. Underground Railroad
17. Battle of Gettysburg
18. Women's Roles

Theme 4: Conflict and Cooperation

Theme 4: Conflict and Cooperation

Theme 6: Patterns of Social and Political Interaction

Natural Resources 1855-present

- 19. Mining
- 20. Agriculture
- 21. Logging

Theme 2: Human Interaction with the Environment
 Theme 2: Human Interaction with the Environment
 Theme 2: Human Interaction with the Environment

Manufacturing 1890-present

- 22. Immigration
- 23. Automobiles
- 24. Cereal

Theme 1: Civilization, Cultural Diffusion and Innovation
 Theme 1: Civilization, Cultural Diffusion and Innovation
 Theme 1: Civilization, Cultural Diffusion and Innovation

Depression and Labor Movement 1929-1941

- 25. Civilian Conservation Corps
- 26. Works Progress Administration
- 27. Flint Sit-Down Strike

Theme 3: Values, Beliefs, Economics, Political Ideas and Institutions
 Theme 3: Values, Beliefs, Economics, Political Ideas and Institutions
 Theme 4: Conflict and Cooperation

Arsenal of Democracy 1935-1945

- 28. Migration
- 29. Trucks, tanks and bombers
- 30. Rosie the Riveter

Theme 6: Patterns of Social and Political Interaction
 Theme 1: Civilization, Cultural Diffusion and Innovation
 Theme 3: Values, Beliefs, Economics, Political Ideas and Institutions

Modern Michigan 1945-present

- 31. Mackinac Bridge
- 32. Freedom March
- 33. Bottle Bill

Theme 1: Civilization, Cultural Diffusion and Innovation
 Theme 6: Patterns of Social and Political Interaction
 Theme 2: Human Interaction with the Environment



The Core Democratic Values (Kindergarten – Grade 4)

The core democratic values are the ideas in which Americans believe. We do not look the same. We like different things. We each think differently. There are some ways that we are the same. We believe in telling the truth. We believe in treating people fairly. To be good citizens we must practice these values each day at home and school.

Our Core Democratic Values: Elementary Definitions

Teaching our core democratic values in kindergarten through grade 4 can be fun for students and easily integrated into your daily interactions with students. These simpler definitions are appropriate for younger students, *but please check your understanding of them by reading the definitions used in grades 5 through 8 (see next page)*. Your complete understanding will assure that your teaching will assist the teachers in the upper grades and eliminate misunderstandings by your students.

Common good: Help others at home and school

Justice: Take turns and be fair to others

Liberty: Follow your beliefs and let others follow theirs

Popular sovereignty: Majority rules

Life: Rules keep you safe, follow them

Equality: Give everyone an equal chance

Diversity: Work and play with everyone

Pursuit of happiness: Have fun but follow the rules at home and school

Truth: Tell the truth

Patriotism: Use the core democratic values and home and school

Rule of law: Rules are made for everyone to follow

ALL STATES



The Core Democratic Values (Grades 5-8)

Core democratic values are the fundamental beliefs and constitutional principles of American society which unite all Americans. These values are expressed in the Declaration of Independence, the United States Constitution and other significant documents, speeches, and writings of the nation. Below are brief definitions of some core democratic values.

Common good: People should work together for the good of all. The government should make laws that are good for everyone.

Justice: All people should be treated fairly in getting the advantages and disadvantages of our country. No group or person should be favored.

Liberty: Liberty includes the freedom to believe what you want, freedom to choose your own friends, and to have your own ideas and opinions, to express your ideas in public, the right for people to meet in groups, and the right to have any lawful job or business.

Popular sovereignty: The power of the government comes from the people.

Life: Each person has the right to the protection of their life.

Equality: Everyone should get the same treatment regardless of where your parents or grandparents were born, your race or religion, or how much money you have. All people have political, social and economic equality.

Diversity: Differences in language, dress, food, where parents or grandparents were born, race, and religion are not only allowed but accepted as important.

Pursuit of happiness: Each person can find happiness in their own way, so long as they do not step on the rights of others.

Truth: The government and citizens should not lie.

Patriotism: A devotion to our country and the core democratic values in word and deed.

Rule of law: Both the government and the people must obey the law.

ALL STATES

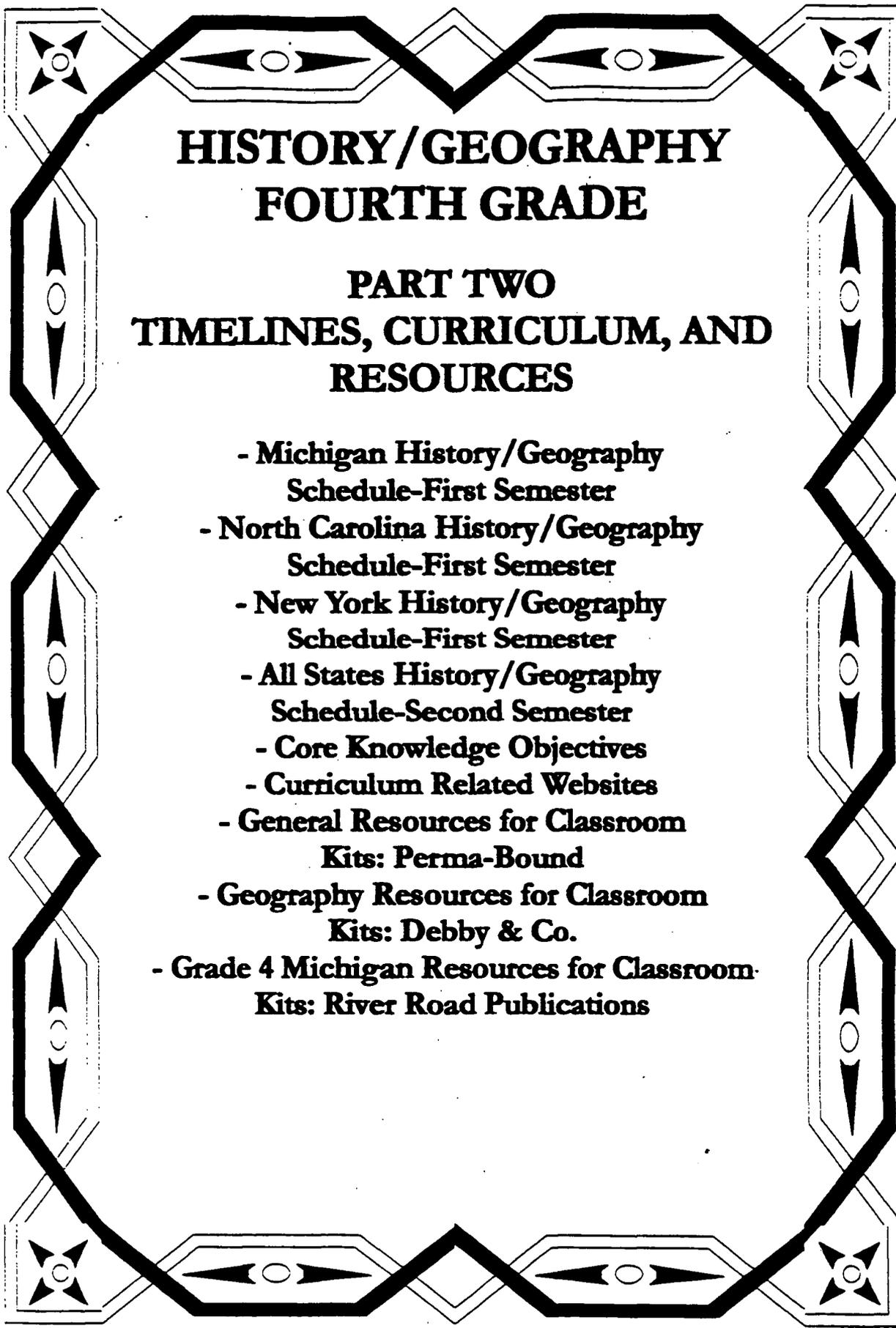
MEAP WRITING RUBRIC

Holistic Feature Scoring of Civic Writing: Grades 5 and 8

(Future Reference for MEAP Assessment-Students should understand and begin to practice writing using these rubric guidelines at the fourth grade level. This detailed list was developed by social studies range-finding committees to provide directions for those who will be scoring extended MEAP responses. History and Geography teachers should model this rubric with their writing lessons.)

Points	Description
4	<p>In order to receive a 4-point score, the response must</p> <ul style="list-style-type: none"> • Give a clearly stated position on the issue and support for that position <ul style="list-style-type: none"> - Students should use words such as support/oppose, for/against, agree/disagree, or should/should not - Do not accept those who do not take a stand, who say someone else (parents, school, or government) should decide the issue • Provide at least one supporting point that is based on the Core Democratic Values of American constitutional democracy <ul style="list-style-type: none"> - Do not accept if this support contradicts state position • Provide at least one piece of accurate, important, and relevant supporting social studies information that comes from the student's prior knowledge of civics, economics, geography, or history (Information other than that supplied by the Data Section or a Core Democratic Value) <ul style="list-style-type: none"> - Do not accept feelings or opinions for this element - Do not accept if this support contradicts stated position • Provide at least one piece of accurate, valid, and relevant supporting information from the Data Section <ul style="list-style-type: none"> - Do not accept if this support contradicts stated position - Data interpretations must be more right than wrong
3	<p>In order to receive a 3-point score, the response must</p> <ul style="list-style-type: none"> • Give a clearly stated and supported position on the issue • Provide at least one supporting point that is based on Core Democratic Values • Contain at least one of the remaining two elements
2	<p>In order to receive a 2-point score, the response must</p> <ul style="list-style-type: none"> • Give a clearly state and supported position on the issue • Contain at least one of the three remaining elements
1	<p>In order to receive a 1-point score, the response must</p> <ul style="list-style-type: none"> • Give a clearly stated and supported position on the issue
0	<p>In order to receive a 0-point score, the response will show no evidence of any of the elements</p>

Note: The supporting points used by students must be explained in enough detail to show a clear connection to the position taken (Yes, I support, No, I do not support).



HISTORY/GEOGRAPHY FOURTH GRADE

PART TWO TIMELINES, CURRICULUM, AND RESOURCES

- **Michigan History/Geography
Schedule-First Semester**
- **North Carolina History/Geography
Schedule-First Semester**
- **New York History/Geography
Schedule-First Semester**
- **All States History/Geography
Schedule-Second Semester**
- **Core Knowledge Objectives**
- **Curriculum Related Websites**
- **General Resources for Classroom
Kits: Perma-Bound**
- **Geography Resources for Classroom
Kits: Debby & Co.**
- **Grade 4 Michigan Resources for Classroom
Kits: River Road Publications**

**History/Geography Schedule (Recommended)
Grade 4**

*** First Semester - Michigan History Themes Project**

<u>Month</u>	<u>Unit</u>
<u>August-September</u>	State and Regional Geography
Week 1	
Week 2	
Week 3	<u>Native Cultures Beginnings to 1790</u>
Week 4	1.Hopewell 2.Three Fires People 3.Huron
<u>October</u>	
Week 5	<u>French in Michigan 1630-1763</u>
Week 6	4.Marquette /Joliet 5.Fur Trade 6.Cadillac/Founding of Detroit
Week 7	<u>British in Michigan 1760-1796</u>
Week 8	7.Pontiac's Rebellion 8.Proclamation of 1763 9.Mackinac Forts
<u>November</u>	
Week 9	<u>Americans Come to Michigan</u>
Week 10	10.Northwest Ordinance 11.Michigan Territory 12.War of 1812
Week 11	<u>Settlement and Statehood:</u>
Week 12	13.Erie Canal 14.Pioneer Life 15.Toledo War
<u>December</u>	
Week 13	<u>Pre-Civil War 1830-1850</u>
Week 14	16.Underground Railroad 17.Battle-Gettysburg 18.Women's Roles
Week 15	<u>Natural Resources:</u> 19.Mining 20.Agriculture 21.Logging
<u>January</u>	
Week 16	<u>Manufacturing 1890-present</u> 22.Immigration 23.Automobiles 24. Cereal
Week 17	<u>Depression and Labor Movement (1929-1941)</u> 25.Civilian Conservation Core (CCC) 26.Works Progress Administration (WPA) 27. Flint Sit-Down Strike
	<u>Arsenal of Democracy (1935-1945)</u> 28.Migration 29.Trucks, Tanks, and Bombers 30. Rosie the Riveter
Week 18	<u>Modern Michigan (1945-present)</u> 31.Mackinaw Bridge 32.Freedom March 33. Bottle Bill
	Review for MEAP testing
Week 19	MEAP Test

MICHIGAN

**History/Geography Schedule (Recommended)
Grade 4
* First Semester - North Carolina State History**

Month**Unit****August-September**

Week 1
Week 2
Week 3
Week 4

October

Week 5
Week 6
Week 7
Week 8

November

Week 9
Week 10
Week 11
Week 12

December

Week 13
Week 14
Week 15

January

Week 16
Week 17
Week 18
Week 19

The recommended schedule for state history within the fourth grade history/geography timeline is incorporated into the first semester. Therefore, state history will be included throughout the months of August to January. Material covered is as follows:

Text: North Carolina, USA

Program Authors: Juan Garcia, Daniel Gelo, Linda Greenow, James B. Kracht, Debra Gray, White, and Becky Manfredini

Silver Burdett, Ginn Publishing 1998

Table of Contents

Map Handbook

Unit 1: North Carolina and Its Regions

Unit 2: Exploring and Settling North Carolina

Unit 3: Challenge and Change

Unit 4: North Carolina Today

* All of the material must be covered. Teachers may use flexible time sequences to cover the content depending on the depth necessary for student comprehension.

NORTH CAROLINA

History/Geography Schedule (Recommended)**Grade 4***** First Semester - New York State History****Month****Unit****August-September****Week 1****Week 2****Week 3****Week 4****October****Week 5****Week 6****Week 7****Week 8****November****Week 9****Week 10****Week 11****Week 12****December****Week 13****Week 14****Week 15****January****Week 17****Week 18****Week 19**

The recommended schedule for state history within the fourth grade history/geography timeline is incorporated into the first semester. Therefore, state history will be taught throughout the months of August to January. The following material is to be covered:

Text: New York Adventures in Time and Place

James A. Banks, McMillan 1998

1-800-442-9685

ISBN: Textbook: 0-02-149194-1

ISBN: Workbook: 0-02-147303-X

ISBN: Teachers Edition 0-02-149194-1

The World and Its People

New York Yesterday and Today

Silver Burdett Company

Morristown, New Jersey

Chapter 8: N.Y. and the American Revolution

Chapter 9: The Growth of New York

Chapter 10: New York Becomes the Empire State

The Erie Canal Era

NEW YORK

*** Second Semester covers Core Knowledge Sequence Guidelines**
Michigan, North Carolina, and New York

February

Week 20

World Geography (Spatial Sense)

Week 21

(Mountains and Mountain Ranges)

Week 22

Europe in the Middle Ages: Michiganepic

Week 23

(Background; Geography related to the development of Western Europe; Developments in History of the Christian Church; Feudalism; The Norman Conquest; Growth of Towns; England in the Middle Ages)

March

Week 24

Week 25

Week 26

Week 27

The American Revolution (Background: The French and Indian War; Causes and Provocations; The Revolution)

April

Week 28

Week 29

Week 30

Week 31

Making a Constitutional Government (Main Ideas behind the Declaration of Independence; Making a new Government: From the Declaration to the Constitution; The Constitution of the U.S.; Levels and Functions of the Government (National, State, Local))

May

Week 32

Week 33

Week 34

Week 35

Early Presidents and Politics

Symbols and Figures

Reformers

The Spread of Islam and the "Holy Wars" Early and Medieval African Kingdoms/China: Dynasties and Conquerors (Teacher Choice)

June

ALL STATES

History and Geography: Grade 4

WORLD HISTORY AND GEOGRAPHY

I. World Geography

A. SPATIAL SENSE (working with maps, globes, and other geographic tools)

- Measure distances using map scales
- Read maps and globes using longitude and latitude, coordinates, degrees
- Prime Meridian (0 degrees); Greenwich, England; 180° Line (International Date Line)
- Relief maps: elevations and depressions

B. MOUNTAINS AND MOUNTAIN RANGES

- Major mountain ranges
 - South America: Andes
 - North America: Rockies and Appalachians
 - Asia: Himalayas and Urals
 - Africa: Atlas Mountains
 - Europe: Alps
- High mountains of the world
 - Asia: Everest
 - North America: McKinley
 - South America: Aconcagua
 - Europe: Mont Blanc
 - Africa: Kilimanjaro

II. Europe in the Middle Ages

A. BACKGROUND

- Beginning about A.D. 200, nomadic, warlike tribes began moving into western Europe, attacking the western Roman Empire; city of Rome sacked by Visigoths in A.D. 410
 - The Huns: Attila the Hun
- Peoples settling in old Roman Empire included Vandals (cf. English word "vandalism"), Franks in Gaul (now France), Angles (in England: cf. "Angle-land") and Saxons
- The "Middle Ages" are generally dated from about A.D. 450 to 1400; approximately the first three centuries after the fall of Rome (A.D. 476) are sometimes called the "Dark Ages"

B. GEOGRAPHY RELATED TO THE DEVELOPMENT OF WESTERN EUROPE

- Rivers: Danube, Rhine, Rhone, and Oder
- Mountains: Alps, Pyrenees
- Iberian Peninsula: Spain and Portugal, proximity to North Africa
- France: the region known as Normandy
- Mediterranean Sea, North Sea, Baltic Sea
- British Isles: England, Ireland, Scotland, Wales; the English Channel

C. DEVELOPMENTS IN HISTORY OF THE CHRISTIAN CHURCH

- Growing power of the pope (Bishop of Rome)
- Arguments among Christians: split into Roman Catholic Church and Eastern Orthodox Church
- Conversion of many Germanic peoples to Christianity
- Rise of monasteries, preservation of classical learning
- Charlemagne
 - Temporarily unites the western Roman Empire
 - Crowned Emperor by the pope in A.D. 800, the idea of a united "Holy Roman Empire"
 - Charlemagne's love and encouragement of learning

D. FEUDALISM

- Life on a manor, castle
- Lords, vassals, knights, freedmen, serfs
- Code of chivalry
- Knight, squire, page

E. THE NORMAN CONQUEST

- Locate the region called Normandy
- William the Conqueror: Battle of Hastings, 1066

F. GROWTH OF TOWNS

- Towns as centers of commerce, guilds and apprentices
- Weakening of feudal ties

G. ENGLAND IN THE MIDDLE AGES

- Henry II
 - Beginnings of trial by jury
 - Murder of Thomas Becket in Canterbury Cathedral
 - Eleanor of Aquitaine
- Significance of the Magna Carta, King John, 1215
- Parliament: beginnings of representative government
- The Hundred Years' War
 - Joan of Arc
- The Black Death sweeps across Europe

III. The Spread of Islam and the "Holy Wars"

A. ISLAM

- Muhammad: the last prophet
- Allah, Qur'an, *jihad*
- Sacred city of Makkah, mosques
- "Five pillars" of Islam:
 - Declaration of faith
 - Prayer (five times daily), facing toward Makkah
 - Fasting during Ramadan
 - Help the needy
 - Pilgrimage to Makkah
- Arab peoples unit to spread Islam in northern Africa, through the eastern Roman Empire, and as far west as Spain
- Islamic Turks conquer region around the Mediterranean; in 1453, Constantinople becomes Istanbul
- The first Muslims were Arabs, but today diverse people around the world are Muslims

B. DEVELOPMENT OF ISLAMIC CIVILIZATION

- Contributions to science and mathematics: Avicenna (Ibn Sina), Arabic numerals
- Muslim scholars translate and preserve writings of Greeks and Romans
- Thriving cities as centers of Islamic art and learning, such as Cordoba (Spain)

C. WARS BETWEEN MUSLIMS AND CHRISTIANS

- The Holy Land, Jerusalem
- The Crusades
- Saladin and Richard the Lion-Hearted
- Growing trade and cultural exchange between east and west

IV. **Early and Medieval African Kingdoms**

A. **EARLY AFRICAN KINGDOMS**

- Kush (in a region also called Nubia): once ruled by Egypt, then became rulers of Egypt
- Axum: a trading kingdom in what is now Ethiopia

B. **MEDIEVAL KINGDOMS OF THE SUDAN**

- Trans-Sahara trade led to a succession of flourishing kingdoms: Ghana, Mali, and Songhai
 - Camel caravans
 - Trade in gold, iron, salt, ivory, and slaves
 - The city of Timbuktu: center of trade and learning
 - Spread of Islam into West Africa through merchants and travelers
 - Ibn Batuta (world traveler and geographer)
- Mali: Sundiata Keita, Mansa Musa
- Songhai: Askia Muhammad

C. **GEOGRAPHY OF AFRICA**

- Mediterranean Sea and Red Sea, Atlantic and Indian Oceans
- Cape of Good Hope
- Madagascar
- Major rivers: Nile, Niger, Congo
- Atlas Mountains, Mt. Kilimanjaro
- Contrasting climate in different regions:
 - Deserts: Sahara, Kalahari
 - Tropical rain forests (along lower West African coast and Congo River)
 - Savanna (grasslands)
 - The Sudan (the fertile region below the Sahara, not the modern-day country)

V. **China: Dynasties and Conquerors**

- Qin Shihuangdi, first emperor, begins construction of Great Wall
- Han dynasty: trade in silk and spices, the Silk Road, invention of paper
- Tang and Song dynasties: highly developed civilization, extensive trade, important inventions (including compass, gunpowder, paper money)
- Mongol invasions and rule
 - Chinggis Khan and the "Golden Horde"
 - Khubilai Khan: establishes capital at what is now Beijing
 - Marco Polo
- Ming dynasty
 - The "Forbidden City"
 - Explorations of Zheng He

AMERICAN HISTORY AND GEOGRAPHY

I. The American Revolution

A. BACKGROUND: THE FRENCH AND INDIAN WAR

- Also known as the Seven Years War, part of an ongoing struggle between Britain and France for control of colonies in various regions around the world (in this case, in North America)
- Alliances with Native Americans
- The Battle of Quebec
- British victory gains territory but leaves Britain financially weakened

B. CAUSES AND PROVOCATIONS

- British taxes, "No taxation without representation"
- Boston Massacre, Crispus Attucks
- Boston Tea Party
- The Intolerable Acts close the port of Boston and require Americans to provide quarters for British troops
- First Continental Congress protests to King George III
- Thomas Paine's *Common Sense*

C. THE REVOLUTION

- Paul Revere's ride, "One if by land, two if by sea"
- Concord and Lexington
 - The "shot heard 'round the world"
 - Redcoats and Minute Men
- Bunker Hill
- Second Continental Congress: George Washington appointed commander in chief of Continental Army
- Declaration of Independence
 - Primarily written by Thomas Jefferson
 - Adopted July 4, 1776
 - "We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty, and the pursuit of Happiness."
- Women in the Revolution: Elizabeth Freeman, Deborah Sampson, Phillis Wheatley, Molly Pitcher
- Loyalists (Tories)
- Victory at Saratoga, alliance with France
- European helpers (Lafayette, the French fleet, Bernardo de Galvez, Kosciusko, von Steuben)
- Valley Forge
- Benedict Arnold
- John Paul Jones: "I have not yet begun to fight."
- Nathan Hale: "I only regret that I have but one life to lose for my country."
- Cornwallis: surrender at Yorktown

II. Making a Constitutional Government

A. MAIN IDEAS BEHIND THE DECLARATION OF INDEPENDENCE

- The proposition that "All men are created equal"
- The responsibility of government to protect the "unalienable rights" of the people
- Natural rights: "Life, liberty, and the pursuit of happiness"
- The "right of the people ... to institute new government"

B. MAKING A NEW GOVERNMENT: FROM THE DECLARATION TO THE CONSTITUTION

- Definition of “republican” government: republican = government by elected representatives of the people
- Articles of Confederation: weak central government
- “Founding Fathers”: James Madison as “Father of the Constitution”
- Constitutional Convention
 - Arguments between small and large states
 - The divisive issue of slavery, “three-fifths” compromise

C. THE CONSTITUTION OF THE UNITED STATES

- Preamble to the Constitution: “We the people of the United States, in order to form a more perfect union, establish justice, insure domestic tranquility, provide for the common defense, promote the general welfare, and secure the blessings of liberty to ourselves and our posterity, do ordain and establish this Constitution for the United States of America.”
- The separation and sharing of powers in American government: three branches of government
 - Legislative branch: Congress = House of Representatives and Senate, makes laws
 - Executive branch: headed by the president, carries out laws
 - Judicial branch: a court system headed by the Supreme Court (itself headed by the Chief Justice), deals with those who break laws and with disagreements about laws
- Checks and balances, limits on government power, veto
- The Bill of Rights: first ten amendments to the Constitution, including:
 - Freedom of religion, speech, and the press (First Amendment)
 - Protection against “unreasonable searches and seizures”
 - The right to “due process of law”
 - The right to trial by jury
 - Protection against “cruel and unusual punishments”

D. LEVELS AND FUNCTIONS OF GOVERNMENT (NATIONAL, STATE, LOCAL)

- Identify current government officials, including:
 - President and vice-president of the U.S.
 - State governor
- State governments: established by state constitutions (which are subordinate to the U.S. Constitution, the highest law in the land), like the national government, each state government has its legislative, executive, and judicial branches
- Local governments: purposes, functions, and officials
- How government services are paid for (taxes on individuals and businesses, fees, tolls, etc.)
- How people can participate in government

III. Early Presidents and Politics

- Define: cabinet and administration
- George Washington as first President, Vice-President John Adams
- John Adams, second president, Abigail Adams
- National capital established at Washington, D.C.
- Growth of political parties
 - Arguments between Thomas Jefferson and Alexander Hamilton:
 - Two opposed visions of America, as an agricultural or industrial society
 - Modern-day system: two main parties (Democrats and Republicans), and independents
- Thomas Jefferson, third president
 - Correspondence between Jefferson and Benjamin Banneker
 - Jefferson as multifaceted leader (architect, inventor, musician, etc.)
 - The Louisiana Purchase (review from grade 1) doubles the nation's size and gains control of Mississippi River
- James Madison, fourth president
 - War of 1812 (briefly review from grade 2)
- James Monroe, fifth president, the Monroe Doctrine
- John Quincy Adams, sixth president
- Andrew Jackson, seventh president
 - Popular military hero, Battle of New Orleans in War of 1812
 - Presidency of "the common man"
 - Indian removal policies

IV. Reformers

- Abolitionists
- Dorothea Dix and the treatment of the insane
- Horace Mann and public schools
- Women's rights
 - Seneca Falls convention
 - Elizabeth Cady Stanton
 - Lucretia Mott
 - Amelia Bloomer
 - Sojourner Truth

V. Symbols and Figures

- Recognize and become familiar with the significance of:
 - Spirit of '76* (painting)
 - White House and Capitol Building
 - Great Seal of the United States

CURRICULUM RELATED WEBSITES

Michigan Department of Education

<http://www.mde.state.mi.us/>

MEAP Released Items

[http://www.meritaward.state.mi.us/
merit/meap/questions/index.htm](http://www.meritaward.state.mi.us/merit/meap/questions/index.htm)

Michigan Curriculum Framework

<http://cdp.mde.state.mi.us>

Social Studies Assessment Models

(in Acrobat 3.0)

<http://cdp.mde.state.mi.us/Assessment/model5.pdf>

<http://cdp.mde.state.mi.us/Assessment/model8.pdf>

<http://cdp.mde.state.mi.us/Assessment/model11.pdf>

Authentic Assessment of Social Studies

http://cdp.mde.state.mi.us/SocialStudies/MI_Auth.AssmtMan.pdf

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Karen = ktodorov@cdp.mde.state.mi.us

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GRADE 4

WORLD HISTORY & GEOGRAPHY: Europe In The Middle Ages

4	2580 *Adam Of The Road	\$10.64
4	45504 Canterbury Tales (Abridged)	\$18.60
4	47044 *Castle	\$19.90
4	47047 *Castle	\$14.60
4	47052 *Castle In The Arctic	\$11.15
4	47511 *Cathedral	\$14.60
4	80122 Door In The Wall	\$10.49
4	193870 *Medieval Feast	\$12.60
4	196285 Middle Ages (Original Hardcover Binding)	\$19.99
4	244200 Proud Taste For Scarlet And Miniver	\$10.64

WORLD HISTORY & GEOGRAPHY: Early & Medieval African Kingdoms

4	4535 *Africa (Original Publisher's Binding)	\$22.00
4	18875 Ashanti To Zulu: African Traditions	\$11.64
4	13224 Royal Kingdoms Of Ghana, Mali, And Songhay: Life In Medieval Africa	\$13.60
4	289824 Sundiata: Lion King Of Mali	\$11.60

AMERICAN HISTORY & GEOGRAPHY: General Resources

4	110956 From Colonies To Country (2nd Edition)	\$19.60
4	175919 Liberty For All? (2nd Edition)	\$19.60
4	212960 New Nation (2nd Edition)	\$19.60

AMERICAN HISTORY & GEOGRAPHY: American Revolution

4	13665 And Then What Happened, Paul Revere?	\$11.49
4	27401 *Ben And Me	\$11.45
4	45325 Can't You Make Them Behave, King George?	\$11.64
4	84830 *Early Thunder	\$10.64
4	114908 George Washington: A Picture Book Biography	\$10.64
4	164201 Johnny Tremain	\$11.49
4	166225 *Jump Ship To Freedom	\$10.64
4	205231 My Brother Sam Is Dead	\$10.00
4	230951 *Paul Revere's Ride	\$12.64
4	234140 Phoebe The Spy (Orig. Title: Phoebe And The General)	\$9.64
4	264940 Secret Soldier: The Story Of Deborah Sampson	\$10.15
4	298970 Thomas Jefferson: A Picture Book Biography	\$20.90
4	319165 *War Comes To Willy Freeman	\$10.64
4	324250 What's The Big Idea, Ben Franklin?	\$11.64
4	326447 Where Was Patrick Henry On The 29th of May?	\$11.64
4	328480 *Who Is Carrie	\$10.64
4	329329 Why Don't You Get A Horse, Sam Adams?	\$11.60
4	335548 Will You Sign Here, John Hancock?	\$11.64

AMERICAN HISTORY & GEOGRAPHY: Making A Constitutional Government

4	151182 *If You Were There When They Signed The Constitution	\$11.64
4	201870 More Perfect Union	\$13.60
4	226155 Our Constitution	\$15.60
4	269243 Shh! We're Writing The Constitution	\$11.64
4	317450 Voting And Elections (Original Publisher's Binding)	\$21.50

AMERICAN HISTORY & GEOGRAPHY: Early Presidents & Politics

4	69908 Dear Benjamin Banneker	\$11.65
4	123940 Great Little Madison	\$10.64
4	286700 *Story Of The White House	\$11.64

AMERICAN HISTORY & GEOGRAPHY: Reformers

4	033870 Bloomers!	\$11.60
4	276570 *Sojourner Truth: Ain't I A Woman?	\$10.15
4	337583 You Want Women To Vote, Lizzie Stanton?	\$11.64

GENERAL RESOURCES: WORLD HISTORY & GEOGRAPHY

GR	272985 16th Century Mosque	\$22.90
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GR	20940 Aztecs (Original Publisher's Binding)	\$19.99
GR	51987 *Children's Atlas Of Civilizations	\$20.60
GR	87025 Egyptian Pyramid	\$16.60
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GR	114860 *Geography From A To Z: A Picture Glossary	\$12.60
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GR	316698 *Visual Dictionary Of The Earth	\$22.90
GR	334440 Wonders Of The World	\$13.60
GR	335636 World War Two Submarine	\$22.90
GR	337740 Young People's Atlas Of The United States	\$25.90

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GR 12092 American Reader: Words That Moved A Nation	\$25.65
GR 40916 Buck Stops Here: The Presidents Of The United States	\$15.65
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GR 210852 Navajos	\$20.90
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GR 281069 Splendid Little War	\$13.60
GR 295635 Test Of Loyalty	\$13.60
GR 309205 Two Kinds Of Patriots	\$14.15

GEOGRAPHY RESOURCES FOR CLASSROOM KITS

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(#) Denotes a resource which may be shared by all teachers at this grade level.)

(* Denotes suitability for ordering for students in classroom sets...at student readability levels.)

Order #	Description	Price
MCG-154-1	*Regions (Grade 4) McGraw-Hill/Spectrum Series...Geography	\$7.95
IF8554	(#) Blank Map Outlines	\$9.99
IF5191	(#) Map Skills (Basic Skills Series) Grade 4	\$5.99
CD-3092	World Map - Labeled (Jumbo Map Pads...1 pkg. of 30)	\$4.99
CD-3093	World Map - Blank (Jumbo Map Pads...1 pkg. of 30)	\$4.99
CD-3090	U.S. Map - Labeled (Jumbo Map Pads...1 pkg. of 30)	\$4.99
CD-3091	U.S. Map - Blank (Jumbo Map Pads...1 pkg. of 30)	\$4.99
T-1088	World Map (Wipe-Off Map)	\$2.99
T-1087	United States Map (Wipe-Off Map)	\$2.99
T-593	Regular Wipe-Off Crayons (8 colors)	\$1.79
FS-37033	The Continents Charts	\$7.95
McP111	Map and Globe Skills Teaching Posters	\$7.95
EI-3310	*Jumbo Picture World Atlas (Giant Atlases)	\$9.95
EI-3311	*U.S. Discovery Atlas (Giant Atlases)	\$9.95
UM-251	(#) 50 Laminated U.S. Maps	\$39.50
UM-253	(#) 50 Laminated World Maps	\$39.50
BH-95222	U.S. Geography (Geography Flip-Overs)	\$6.75
BH-95223	World Geography (Geography Flip-Overs)	\$6.75
Scpb 341723	(#) Everything You Need to Know About Geography Homework	\$8.95
WIL598429	(#) Geography For Every Kid	\$12.95
FS10622	(#) Geography For Everyday	\$9.95
GPGMITPOS	*Colorful Michigan Desk Map (34"x22")	\$5.95
GPGMICCOL	(#) Marvelous Michigan Coloring Book	\$3.95
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IF8908R	(#) Michigan thematic Unit	\$5.99

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River Road Publications, Inc.

*Denotes suitability for ordering for students in classroom sets... at student readability levels

**Can be ordered as a set... Order # 682-MI-P... The Michigan Theme Package... \$239.95

Order #	ISBN #	Description	Price
294		A Historical Album of Michigan	\$7.95
413		Bunyans & Banjoes: Michigan Songs & Stories Book and Cassette	\$19.95
682-43-1	0-938782-43-1	*Erie Trail West: A Dream-Quest Adventure	\$7.95
682-42-3	0-938682-42-3	Erie Trail West: A Teacher's Guide	\$8.95
605		Great Lakes Indians: A Pictorial Guide	\$12.99
317		Herstory: Women Who Changed The World	\$22.95
375		Immigrants	\$19.95
260		Immediately Michigan	\$14.95
682-36-9	0-938682-36-9	*Journey Back To Lumberjack Camp: A Dream-Quest Adventure	\$7.95
564		La Mariposa	\$5.95
682-28-8	0-938682-28-8	Linking Fact and Fiction in the Great Lakes Lumbering Past: A Teaching Guide for Journey Back To Lumberjack Camp	\$8.95
682-MI-1**		Michigan Theme 1: Two Peninsulas Called Michigan Teacher's Book, Worksheets & 25 Student Books	\$69.95
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682-MI-3**		Michigan Theme 3: A Diverse People Teacher's Book, Worksheets & 25 Student Books	\$79.95
682-C1-6	0-93868-01-6	*Nishnawbe: The Story of Indians in Michigan	\$8.95
682-59-8	0-938682-59-8	Nishnawbe Teacher's Guide	\$8.95
682-48-2	0-938682-48-2	*North to Iron Country: A Dream-Quest Adventure	\$7.95
682-52-0	0-938682-52-0	North To Iron Country: A Teacher's Guide	\$8.95
602		Only Passing Through: The Story of Sojourner Truth	\$16.95
571		Pick & Shovel: The Journeys of Pascal D'Angelo	\$20.00
588		Remember The Ladies: 100 Great American Women	\$16.95
682-16-4	0-938682-16-4	Right In Your Own Backyard	\$8.95
239PB		Rosa Parks And The Montgomery Bus Boycott	\$6.95
285		Rosie The Riveter: Women Working on the Home Front in World War II	\$18.00
682-22-9	0-938682-22-9	Settling In Michigan And Other True Pioneer Stories	\$9.95
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150		The Erie Canal	\$5.25
476		The Great Depression	\$5.25
619		The History of Automobiles	\$5.95
237		The Illustrated Voyager	\$24.95
222		The Northwest Ordinance of 1787	\$5.25
258		The Ojibwe Indians of the Great Lakes	\$5.25
682-27-X	0-983682-27-X	*Traders In Time: A Dream-Quest Adventure	\$7.95
682-25-3	0-938682-25-3	Linking Fact & Fiction in the Fur Trade: A Teaching Guide for Traders In Time	\$8.95
682-57-1	0-938682-53-9	*Train To Midnight: A Dream-Quest Adventure	\$7.95
682-62-8	0-938682-62-8	Train To Midnight... Teacher's Guide: A Curriculum Connection	\$4.25
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The Child Study Team
Evaluations
Inclusion of Students with Disabilities
Parent Participation
Individuals with Disabilities Education
Act (IDEA)



Special Education

The Policy

It is the policy of the National Heritage Academies to provide special education services within each academy. All students with special needs have the right to a quality education appropriate to their needs, abilities and interest. It is the goal of the special education staff to act as a resource to the classroom teacher in the development and implementation of appropriate instructional and socialization strategies. Implementation of these strategies will occur within the general education setting and through one-on-one and small-group remediation.

The Individual Education Plan (IEP)

All National Heritage Academies campuses comply with all federal and state legal requirements that every student identified as having a disability be provided an Individual Educational Program (IEP) specifying goals, level of service, ancillary services and the least restrictive placement. Prior to the opening of school, registration forms are scanned to identify current IEPs from previous schools attended. The parents are fully informed of their rights, procedures and responsibilities under special education law.

Role of the Special Education Building Coordinator

- Form a partnership with the classroom teacher to develop appropriate instructional practices to meet student needs
- Act as a resource to the classroom teacher in the development, implementation and monitoring of specialized or modified programs
- Provide direct instruction to individuals or groups of students in the classroom as well as in the Resource Room setting
- Administer formal and informal educational assessments
- Interpret the results of assessments, observations and consultations to develop appropriate programming strategies
- Facilitate effective communication with students, parents, teachers, administration, special education support staff and community based agencies
- Share up-to-date professional information regarding special education
- Receive referrals directed to the Child Study Team
- Coordinate and lead Child Study Team meetings

Special Education Personnel

All special education teachers have the proper certification. Our ancillary staff consists of speech and language pathologists, social workers, psychologists, and occupational therapists.

The Child Study Team

The Child Study Team (CST) is a committee of school personnel set up by the principal to ensure ongoing and effective support for classroom teachers and students. The special education teacher co-chairs the school's team in cooperation with the building administrator. The team provides a forum to discuss students' academic and behavior needs and to generate, initiate and monitor solutions that marshal the resources of the school, the family and the community. This process creates an awareness and understanding of the issues affecting the student. The team acts as a pre-referral intervention-planning group for those "unidentified" students whose difficulties may suggest the presence of a disability. As appropriate, the team may refer a student for a formal assessment for special education. Parents should be informed if their child is being considered by the Child Study Team, and parental permission must be obtained prior to any formal assessment of that student.

Evaluations

Special education students are subject to an annual review and a three-year reevaluation. At their annual reviews and three-year reevaluations, parents and teachers go over the protocols appropriate to the given student, and make clear decisions as to the programming for this student. Parents are informed of student progress a minimum of four times per year at quarterly marking periods. Progress is also shared through telephone calls, written information/feedback, and personal contacts.

Inclusion of Students with Disabilities

National Heritage Academies is committed to the fullest level of inclusion deemed possible and appropriate by our professional team of general and special educators, administrators, and ancillary-support staff. Our goal is to educate each student in the least restrictive environment possible based on a student's individual needs.

Parent Participation

Parents/legal guardians have the *expressed right* to participate in all meetings dealing with the evaluation, identification, and educational placement of their child. Information concerning a child will be requested of his/her parents/guardians during the child study process and the parent's/guardian's presence will be requested for all subsequent meetings. Parents/legal guardians are considered members of both the Multi-Disciplinary Evaluation Team (MET) and the Individual Education Programming Team (IEPT).

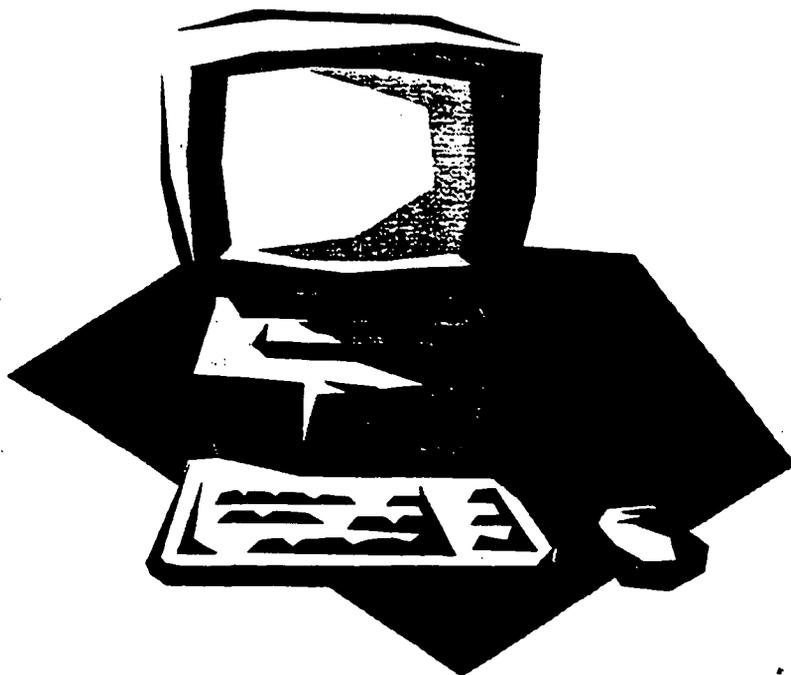
Individuals with Disabilities Education Act (IDEA)

National Heritage Academies are in step with the major changes in special education. The six principles of the new laws are:

- Free appropriate public education
- Appropriate evaluation
- Individualized education program (IEP)
- Least restrictive environment (LRE)
- Parent and student participation in decision making
- Procedural safeguards

TECHNOLOGY FOURTH GRADE

**Technology—Educational Philosophy
Content Standards Grade 4
Scope and Sequence of
Content Standards Grades 3-8**



Educational Technology Philosophy

The National Assessment of Educational Progress (NAEP) has tracked student achievement for nearly three decades. In 1996, the results of the NAEP indicated a link between certain kinds of technology use, higher scores on the NAEP, and an improved school climate.¹ It is important to note that not all types of technology use produced these results. In fact, the results indicated that the use of computers for "drill and practice" may result in decreased student scores. The technology use that proved most beneficial centered on using the computer for simulation, problem solving and analysis. "The computer's most powerful uses are for making things visual," says James Kaput, a math professor at the University of Massachusetts-Dartmouth. "It can make visual abstract processes that are otherwise ineffable."

As an organization, NHA focuses on delivering a "back to basics" approach to education based on research to generate student performance results. NHA's philosophy is grounded in the premise that the primary educational focus in elementary school should be mastering the core academic subjects of English, reading, mathematics, history, and science. Use of technology within the framework of the core academic curriculum must be age appropriate and must enhance the learning process. Just as writing relies on penmanship as a requisite skill, students and teachers must develop requisite skills in the use of technology in order to maximize its curricular impact. Students will develop these skills in the context of using technology for academic pursuits. Teachers will develop technology skills through training, practice, and ongoing assessment.

Developing Technology Skills

NHA's core academic curriculum is extremely rigorous and focuses on developing the fundamental skills, attitudes, and background knowledge that will allow students to be successful in all future pursuits. Specific technology skills are most effectively learned in the context of the core curriculum. Just as science teachers have taught their students to use a microscope in order to view cells, basic technology skills, such as using a scanner, are best taught in the context of developing a Web page or creating a portfolio. However, NHA will develop a specific technology curriculum to ensure the acquisition of computer skills.

NHA's approach to the curriculum is built upon the premise that a child's long-term academic success is directly related to the strength of the foundation upon which it is built. This belief provides a central core for the entire NHA curriculum. With this in mind, the school calendar and schedule focuses primarily on the development of this foundation in the core academic subjects. Once this foundation is laid, the learner benefits in all curricular areas.

In alignment with this core belief, NHA approaches the formal computer training very deliberately. While computers can be used in grades K-2 to enhance the delivery/experience of the student in the academic areas, no formal computer training is addressed during these formative years. A student's time in school is so valuable that computer training at these early ages would supersede a more fundamental element of the child's education. Students in grades K-2 may acquire technology skills as a by-product of the technology use within the curriculum. Formalized computer training will begin to be addressed by the classroom teacher beginning in grade 3. During the upper elementary years (grades 3-5), time is carved out of the school day to help students develop specific skills as they align with state and national standards. In most NHA affiliated schools, a computer elective course is offered in grades 6-8. During this set of courses, more advanced computer skills are taught and students are asked to apply these skills in increasingly unique and meaningful ways. Teachers in grades 6-8 will continue to include the development of computer skills into the classroom and students will be expected to apply these skills appropriately to enhance their learning.

¹ "The Link to Higher Scores", Andrew Trotter, Education Week, October 1, 1998.

This technology curriculum is based on both state and national standards. Specific lessons and assessments related to computer skill acquisition will be developed through a cooperative effort between the NHA Educational Technology team and the NHA Curriculum team.

Integrating Technology with the Curriculum

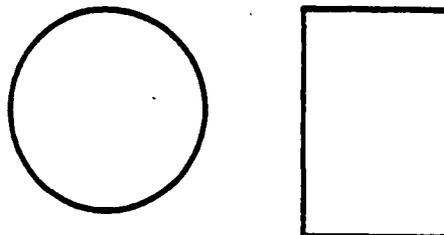
Although the time dedicated to acquire computer-specific skills is not equally distributed throughout the various grade levels, the underlying philosophy regarding technology use to enhance instruction is constant. In addition to developing materials that address both content standards and technology competencies, NHA is committed to the electronic delivery of content and supporting materials that aide in the delivery of curricula.

To achieve this goal of integration, NHA will develop a comprehensive curriculum map that includes specific teacher and student resources that tie technology with the core content areas in meaningful and substantive ways. A library of technology projects will be developed that connect specific curriculum objectives with technology skills. As a result, each teacher will be able to develop the tools necessary to integrate the acquisition of these skills into the academic curricula.

Over the course of the 2000-2001 school year, the Educational Technology Team, in conjunction with NHA teachers, has developed over 300 lessons, units and projects that integrate the technology curriculum into other curricular areas. These resources span all subject areas and grade levels and are made available to all NHA teachers in electronic form. Through the implementation of this technology plan, it is NHA's vision that this development will continue and lessons, units, projects, and other resources will continue to be made available to all NHA teachers that tie the technology curriculum into other curricular areas. The following is an example of a lesson that integrates technology objectives within other curricular areas.

A class is about to begin a unit on fractions within the fourth grade math curriculum. The teacher works with the Educational Technology Specialist to develop a lesson where students are to divide certain shapes into sections and then color the sections to depict a given fraction. The lesson will be done using a paint/draw program on the computer. See the example below:

1. Use the paint tools to divide the following shapes into fourths.
2. Use the paint tools to color the sections of each object to show the following:
 - a. Circle: $\frac{3}{4}$
 - b. Rectangle: $\frac{1}{4}$



The teacher will spend a small amount of time at the beginning of the lesson to explain how to use the paint/draw program, but the primary focus of the lesson will be focused on getting a better understanding of fractions. This lesson ties together many of the technology curriculum's paint/draw program objectives as well as many of the fraction objectives found in the mathematics curriculum.

	Instructional Time Devoted to Computer Skill Development	Instructional Time Devoted to Technology-Enhanced Delivery of Instruction
K - 2	<p>No instructional time is devoted to computer skill development.</p> <p>Resources: None</p>	<p>Teachers use LCD projectors to model the use of technology, present information in engaging ways, and utilize the Internet in whole-group settings.</p> <p>Resources: LCD projectors, Internet connectivity</p>
3 - 5	<p>Instructional time is devoted to developing specific technology skills such as:</p> <ol style="list-style-type: none"> 1. Computer operations 2. File management 3. Word processing 4. Keyboarding 5. Presentation tools 6. Spreadsheet use 7. Database basics 8. Internet use & responsibilities <p>Resources: Some significant student access to computer required. Classroom teacher will be responsible for the delivery of this instruction. Curriculum to be developed and supplied by NHA.</p>	<p>Teachers use LCD projectors to model the use of technology, present information in engaging ways, and utilize the Internet in whole-group settings.</p> <p>Students use computers to develop materials, complete assessments, or engage in simulations. Work can be individual, in pairs, or in small groups.</p> <p>Resources: LCD projectors, Internet connectivity Some significant student access to computers required.</p>
6 - 8	<p>Instructional time in the middle school "Media / Technology" elective course is devoted to developing specific technology skills such as:</p> <ol style="list-style-type: none"> 1. Digital imaging 2. Digital audio 3. Desktop publishing 4. Presentation 5. Basics of good design 6. Web page authoring 7. Application integration 8. Internet use <p>Resources: Some significant student access to computer required. Classroom teacher will be responsible for the delivery of this instruction. Curriculum to be developed and supplied by NHA.</p> <p>It is desirable to place some computers permanently in each middle school classroom to achieve a fully integrated environment</p>	<p>Teachers use LCD projectors to model the use of technology, present information in engaging ways, and utilize the Internet in whole-group settings.</p> <p>Students use computers to develop materials, complete assessments, or engage in simulations. Work can be individual, in pairs, or in small groups.</p> <p>Students utilize computers independently to accomplish tasks appropriate to the use of the computer as a tool. Computers become seamlessly integrated tools in the middle school classroom, mimicking their place in the adult work environment.</p> <p>Resources: LCD projectors, Internet connectivity Some significant student access to computers required. Permanently placed PCs in middle school classroom are desirable.</p>

Technology Content Standards Grade 4

Introduce: Direct Instruction of the technology objectives.

Develop: Apply the technology objective with direction.

Independent User: Apply the technology objective without direction.

Content Standard 1: Students will demonstrate awareness, knowledge and appropriate useage of computer hardware components.	
Mouse Skills:	
Mouse Skills: Point and Click/Double Click	Develop
Mouse Skills: Point and Select from Menu	Develop
Mouse Skills: Point, Click, and Drag	Develop
Keyboarding Skills:	
Keyboarding Skills: Use Typing Tutorial Program.	Introduce
Keyboarding Skills: Proficiently type, using proper hand position, with all alphanumeric keys.	Introduce
Other:	
Indetify and know the basic functions of computer hardware.	Develop
Know potential hazards that could damage computer hardware.	Develop
Learn NHA's student computer useage policies.	Develop

Content Standard 2: Students will demonstrate awareness, knowledge and useage in file management and basic computer operation.	
File Management:	
File Management: Save (Name, Choose a location)	Develop
File Management: Retrieve saved documents	Develop
File Management: Distinguish between Save and Save As	Introduce
Computer Operation Skills:	
Computer Operation Skills: Know how to start a computer software program	Develop
Computer Operation Skills: Cut, Copy, Paste	Introduce
Computer Operation Skills: Manipulate Windows (Task Bar, Close Button, Minimize Button, Maximize Button, Restore Window Button)	Introduce

Introduce: Direct Instruction of the technology objectives.

Develop: Apply the technology objective with direction.

Independent User: Apply the technology objective without direction.

Content Standard 3: Students will demonstrate awareness, knowledge, and usage of a word processor, spreadsheet, and database.	
Word Processing:	
Word Processing: Know how to start a new Word Processing document.	Develop
Word Processing: Change the font and size of text.	Develop
Word Processing: Align text with alignment buttons.	Develop
Word Processing: Highlight text with the mouse.	Develop
Word Processing: Change the format of text with bold, italics and underline.	Develop
Word Processing: Know how to print independently.	Develop
Word Processing: Use the cut and paste commands.	Introduce
Word Processing: Use the menu bar functions.	Introduce
Word Processing: Insert Clip Art	Introduce
Spreadsheet:	
Spreadsheet: Use the mouse to select a cell.	Develop
Spreadsheet: Enter data into a cell.	Develop
Spreadsheet: Learn spreadsheet terms.	Introduce
Spreadsheet: Know how to start a new Spreadsheet document.	Introduce
Other:	
Know basic distinctions among computer software programs, such as word processors, special purpose programs, and games.	Introduce

Content Standard 4: Students will demonstrate knowledge of creating and using graphics, desktop publishing, and creating presentations.	
Graphics:	
Know how to use basic painting and drawing tools.	Develop
Able to put shapes together to create a picture.	Develop
Desktop Publishing/Presentations:	
Know how to insert clip art.	Introduce

Introduce: Direct Instruction of the technology objectives.

Develop: Apply the technology objective with direction.

Independent User: Apply the technology objective without direction.

Content Standard 5: Students will demonstrate awareness, knowledge and useage of the World Wide Web and research tools that leverage technology.	
Know how to search for information within a reference-based software program.	Develop
Learn Internet etiquette; do's and don't's	Develop
Know basic internet terms.	Develop

Content Standard 7: Students will demonstrate an understanding of how technology can be used as a tool for problem solving and decision making.	
Know that objects occur in nature; but people can also design and make objects.	Develop
Know that tools can be used to observe, measure, make things, and do things better and/or more easi	Develop
Know that people are always inventing new ways to solve problems and get work done.	Develop

Scope and Sequence of Content Standards Grades 3-8

Introduce: Direct instruction of the technology objectives.

Develop: Apply the technology objective with direction.

Independent User: Apply the technology objective without direction.

Content Standard 1: Students will demonstrate awareness, knowledge and appropriate usage of computer hardware components.						
	3	4	5	6	7	8
Mouse Skills:						
Mouse Skills: Point and Click/Double Click	I	D	IU	IU	IU	IU
Mouse Skills: Point and Select from Menu	I	D	IU	IU	IU	IU
Mouse Skills: Point, Click, and Drag	I	D	IU	IU	IU	IU
Mouse Skills: Know the basic functional differences between left and right mouse buttons.			I	D	IU	IU
Keyboarding Skills:						
Keyboarding Skills: Use Typing Tutorial Program.		I	D	IU	IU	IU
Keyboarding Skills: Proficiently type, using proper hand position, with all alphanumeric keys.		I	D	IU	IU	IU
Other:						
Identify and know the basic functions of computer hardware.	I	D	IU	IU	IU	IU
Know potential hazards that could damage computer hardware.	I	D	IU	IU	IU	IU
Learn NHA's student computer usage policies.	I	D	IU	IU	IU	IU
Know basic facts about networked computers.			I	D	IU	IU
Uses a variety of input and output devices. (Scanner, Digital Camera, etc...)			I	D	IU	IU
Know the differing capacities and trade-offs for computer storage media.				I	D	IU

Content Standard 2: Students will demonstrate awareness, knowledge and usage in file management and basic computer operation.						
	3	4	5	6	7	8
File Management:						
File Management: Save (Name, Choose a location)	I	D	IU	IU	IU	IU
File Management: Retrieve saved documents	I	D	IU	IU	IU	IU
File Management: Distinguish between Save and Save As		I	D	IU	IU	IU
File Management: Create back-up of documents.			I	D	IU	IU
Computer Operation Skills:						
Computer Operation Skills: Know how to start a computer software program	I	D	IU	IU	IU	IU
Computer Operation Skills: Cut, Copy, Paste		I	D	IU	IU	IU
Computer Operation Skills: Manipulate Windows (Task Bar, Close Button, Minimize Button, Maximize Button, Restore Window Button)		I	D	IU	IU	IU
Computer Operation Skills: Trouble-shoots simple problems.				I	D	IU

Introduce: Direct Instruction of the technology objectives.

Develop: Apply the technology objective with direction.

Independent User: Apply the technology objective without direction.

Content Standard 3: Students will demonstrate awareness, knowledge, and usage of a word processor, spreadsheet, and database.						
	3	4	5	6	7	8
Word Processing:						
Word Processing: Know how to start a new Word Processing document.	I	D	IU	IU	IU	IU
Word Processing: Change the font and size of text.	I	D	IU	IU	IU	IU
Word Processing: Align text with alignment buttons.	I	D	IU	IU	IU	IU
Word Processing: Highlight text with the mouse.	I	D	IU	IU	IU	IU
Word Processing: Change the format of text with bold, italics and underline.	I	D	IU	IU	IU	IU
Word Processing: Know how to print independently.	I	D	IU	IU	IU	IU
Word Processing: Use the cut and paste commands.		I	D	IU	IU	IU
Word Processing: Use the menu bar functions.		I	D	IU	IU	IU
Word Processing: Insert Clip Art		I	D	IU	IU	IU
Word Processing: Use Spell Check			I	D	IU	IU
Word Processing: Learn Keyboard short-cuts (Ctrl-V = Paste, etc...)				I	D	IU
Word Processing: Learn to use headers and footers.				I	D	IU
Spreadsheet:						
Spreadsheet: Use the mouse to select a cell.	I	D	IU	IU	IU	IU
Spreadsheet: Enter data into a cell.	I	D	IU	IU	IU	IU
Spreadsheet: Learn spreadsheet terms.		I	D	IU	IU	IU
Spreadsheet: Know how to start a new Spreadsheet document.		I	D	IU	IU	IU
Spreadsheet: Learn to graph or chart.			I	D	IU	IU
Spreadsheet: Learn to add/subtract cell information.			I	D	IU	IU
Spreadsheet: Create formula functions.					I	D
Database:						
Database: Know how to start a new Database document.				I	D	IU
Database: Know database terms.				I	D	IU
Database: Know how to create fields and enter information into records.				I	D	IU
Database: Learn to sort the database based on one field.				I	D	IU
Database: Perform a search based on one or more fields.				I	D	IU
Other:						
Know basic distinctions among computer software programs, such as word processors, special purpose programs, and games.		I	D	IU	IU	IU
Start using multiple applications to complete one document or project. (eg. Insert a spreadsheet into a word processing document)				I	D	IU
Know how formats differ among software applications and hardware platforms.				I	D	IU

Introduce: Direct Instruction of the technology objectives.

Develop: Apply the technology objective with direction.

Independent User: Apply the technology objective without direction.

Content Standard 4: Students will demonstrate knowledge of creating and using graphics, desktop publishing, and creating presentations.						
	3	4	5	6	7	8
Graphics:						
Know how to use basic painting and drawing tools.	I	D	IU	IU	IU	IU
Able to put shapes together to create a picture.	I	D	IU	IU	IU	IU
Know how to use advanced painting and drawing tools.			I	D	IU	IU
Know how to select specific areas of a painting or drawing.			I	D	IU	IU
Know how to use cut, copy, and paste with selected shapes.			I	D	IU	IU
Know the differences between several graphic formats.				I	D	IU
Desktop Publishing/Presentations:						
Know how to insert clip art.		I	D	D	IU	IU
Learn how to select and use a template.			I	D	IU	IU
Know how to Zoom in and out.			I	D	IU	IU
Learn how to create a basic presentation.			I	D	IU	IU
Use special hardware devices for input within a document (scanner, digital camera).			I	D	IU	IU
Learn how to format a Presentation.				I	D	IU
Complete a content area project.				I	D	IU
Complete and present a content area project presentation using Microsoft Powerpoint.				I	D	IU
Use multimedia within a document/presentation. (video, animation, sound, etc...)				I	D	IU

Content Standard 5: Students will demonstrate awareness, knowledge and usage of the World Wide Web and research tools that leverage technology.						
	3	4	5	6	7	8
Know how to search for information within a reference-based software program.	I	D	IU	IU	IU	IU
Learn Internet etiquette: do's and don'ts	I	D	IU	IU	IU	IU
Know basic internet terms.	I	D	IU	IU	IU	IU
Learn entering an Internet Web address (URL).			I	D	IU	IU
Learn how to search and use keywords within a search engine.			I	D	IU	IU
Learn Internet Explorer button functions (back, forward, stop, etc...).			I	D	IU	IU
Learn how to access, send and reply with e-mail.			I	D	IU	IU
Learn how to download graphics.			I	D	IU	IU
Learn how to research and evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources concerning real-world problems.				I	D	IU

Introduce: Direct instruction of the technology objectives.

Develop: Apply the technology objective with direction.

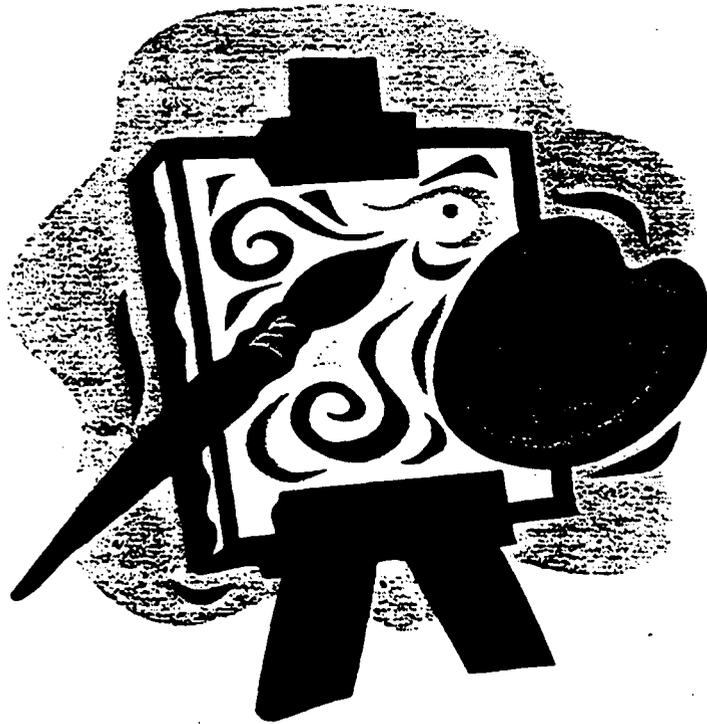
Independent User: Apply the technology objective without direction.

Content Standard 6: Students will demonstrate an understanding of the relationships among science, technology, society, and the individual.						
	3	4	5	6	7	8
Know ways that technology is used at home and school.			I	D	IU	IU
Know that new tools and ways of doing things affect all aspects of life, and may have positive or negative effects on other people.			I	D	IU	IU
Understand that when an individual creates something on a computer, the created work is that person's property, and only that person has the right to change it.			I	D	IU	IU
Know that technologies often have costs as well as benefits and can have an enormous effect on people and other living things.			I	D	IU	IU
Know that new inventions often lead to other new inventions and ways of doing things.			I	D	IU	IU
Know areas in which technology has improved human lives.			I	D	IU	IU
Understand the concept of software piracy.			I	D	IU	IU
Know ways in which technology has influenced the course of history.				I	D	IU
Know that science cannot answer all questions and technology cannot solve all human problems nor meet all human needs.					I	D
Know examples of copyright-violations and computer fraud and possible penalties.					I	D
Know that technology and science are reciprocal. They both are the driving force behind each other.						I
Know ways in which technology and society influence one another.						I

Content Standard 7: Students will demonstrate an understanding of how technology can be used as a tool for problem solving and decision making.						
	3	4	5	6	7	8
Know that objects occur in nature; but people can also design and make objects.	I	D	IU	IU	IU	IU
Know that tools can be used to observe, measure, make things, and do things better and/or more easily.	I	D	IU	IU	IU	IU
Know that people are always inventing new ways to solve problems and get work done.	I	D	IU	IU	IU	IU
Identify a simple problem that can be solved using technology.			I	D	IU	IU
Know constraints that must be considered when designing a solution to a problem.			I	D	IU	IU
Select and use appropriate tools and technology resources to accomplish a variety of tasks and solve problems.			I	D	IU	IU
Know that people have invented and used tools throughout history to solve problems and improve ways of doing things.			I	D	IU	IU
Identify appropriate problems for technological design.					I	D
Design a solution or product, taking into account needs and constraints.					I	D
Implement a proposed design.					I	D

VISUAL ARTS FOURTH GRADE

**Mission Statement
NHA Visual Arts Education
Grade Level Content Standards
And Objectives**

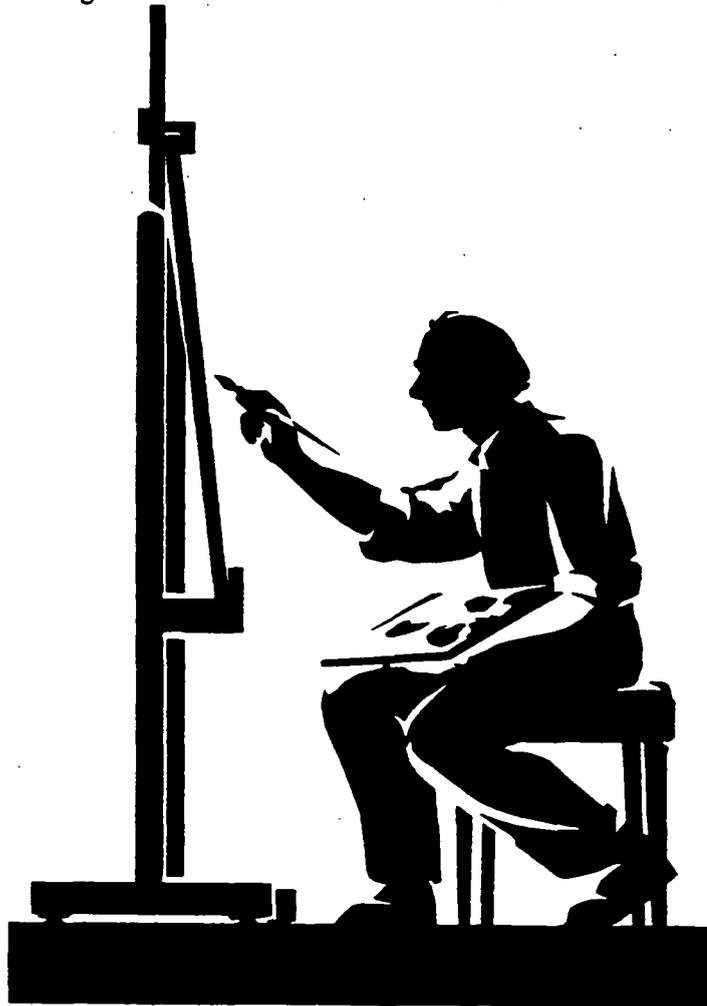


Visual Arts Mission Statement National Heritage Academies

In teaching the visual arts, we seek to provide the student with the tools to understand the significant role the visual arts play in our lives with their power to express ideas throughout history. The visual arts are an essential means of communication in our society and we seek to enable the child to use the visual arts to express his or her own unique ideas.

The visual arts curriculum will equip the learner with a philosophical, intellectual, physical, emotional, and moral foundation in the visual arts. From this foundation, we seek to enhance the critical thinking and problem-solving skills of the student through creativity and self-expression.

We believe the visual arts are essential to a child's education and provide an opportunity for each child to become a valuable and contributing member of our society, ultimately leading to a higher sense of their own self-worth.



<p style="text-align: center;">NATIONAL HERITAGE ACADEMIES VISUAL ARTS EDUCATION</p>
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Art History

The study of art history will enable students to appreciate and understand artworks and artists from various cultures past and present.

Aesthetics

Aesthetics in art education helps form the foundation of a student's understanding of the arts as a unique and important human experience. The study of aesthetics will enable the student to view, appreciate, interpret and evaluate works of art.

Art Production

Students will use various mediums and techniques to produce works of art that express personal thoughts, feelings, and perceptions.

Art Criticism

Art criticism is an effort to fully understand works of art by precisely describing them, analyzing their components, interpreting them and making judgments about the content or form according to established standards.

Integration

Integrating art into the classroom curriculum helps the student understand the correlation between the two areas of study.

Visual Arts: Grade 4

Content Standards
Fourth Grade students will:
1. Interpret meaning in works of art
2. Analyze formal qualities in works of art
3. Discuss global works of art in historical/cultural context
4. Create expressive artwork in varied media, independently, and in collaborative groups
5. Critique own artwork using methods and vocabulary of aesthetics and art criticism

I. Art of the Middle Ages in Europe

- Note the generally religious nature of European art in the Middle Ages, including
 - Examples of medieval Madonnas (such as *Madonna and Child on a Curved Throne*-13th century Byzantine)
 - Illuminated manuscripts (such as *The Book of Kells*)
 - Tapestries (such as the Unicorn tapestries)
- Become familiar with feature of Gothic architecture (spires, pointed arches, flying buttresses, rose windows, gargoyles and statues) and famous cathedrals, including Notre Dame (Paris)

II. Islamic Art and Architecture

- Become familiar with examples of Islamic art, including illuminated manuscript and illumination of the Qur'an (Koran)
- Note characteristic features of Islamic architecture, such as domes and minarets, in Dome of the Rock (Mosque of Omar), Jerusalem
 - Alhambra Palace, Spain
 - Taj Mahal, India

III. The Art of Africa

- Note the spiritual purposes and significance of many African works of art, such as masks used in ceremonies for planting, harvesting, or hunting
- Become familiar with examples of art from specific regions and peoples in Africa, such as
 - Antelope headdresses of Mali
 - Sculptures by Yoruba artists in the city of Ife
 - Ivory carvings and bronze sculptures of Benin

IV. The Art of China

- Become familiar with examples of Chinese art, including
 - Silk scrolls
 - Calligraphy (the brush writing and painting)
 - Porcelain

V. The Art of a New Nation: The United States

- Become familiar with famous portraits and paintings, including
 - John Singleton Copley, *Paul Revere*
 - Gilbert Stuart, *George Washington*
 - Washington Crossing the Delaware*
- Become familiar with the architecture of Thomas Jefferson's Monticello

**MUSIC
FOURTH GRADE**

**NHA Music Philosophy
Grade Level Content Standards
Supplies and Curriculum
Component Chart Grade 4-2000**



NHA MUSIC PHILOSOPHY

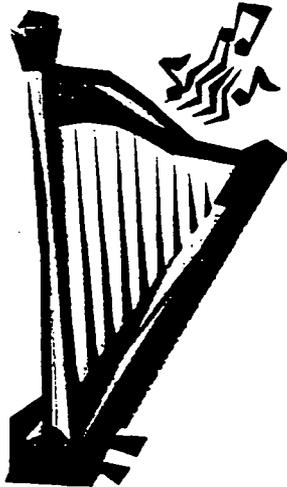
Music is an integral part of life in our cultures, communications, and creativity and expressive abilities. An innate part of our natural being, our musical intelligence needs to be developed and enhanced through formal music education to complete a balanced education for our charter school students.

Music education is especially beneficial for students with lower verbal abilities and has been shown to increase verbal SAT scores by as much as 34-38 points. Music students have been proven to be ahead of other students in writing, communication and analytical skills, and have outperformed non-music students on achievement tests in reading and math. The study of music enhances self-discipline, self-confidence, team skills, and self-motivation.



Fourth Grade Content Standards

The Student Will:
A. Recognize a steady beat, accents, and the downbeat; play a steady beat, a simple rhythm pattern, and simultaneous rhythm patterns
B. Discriminate between fast and slow; accelerando and ritardando
C. Discriminate between differences in pitch as small as a half step higher or lower
D. Discriminate between loud and soft; crescendo and decrescendo
E. Understand legato (smoothly flowing progression of notes) and staccato (crisp, separated notes)
F. Sing unaccompanied, accompanied, and in unison
G. Recognize and sing harmony (consonance and dissonance); sing simple rounds and canons; recognize I, IV, and V chords
H. Recognize verse and refrain, introduction and coda, ABA and rondo (ABACA) form
I. Continue work with timbre and phrasing
J. Recognize theme and variations
K. Name the ledger lines and spaces of the treble clef
L. Sing or play simple melodies while reading scores
M. Understand the following notation: quarter note and rest; eighth note; half note and rest; whole note and rest; tied notes and dotted notes; sharps and flats; D.C. al Fine (da capo al fine); meter signatures (4/4, 2/4, 3/4); dynamics pp , p , mp , mf , f , ff
N. Play recorder on simple melodic and ostinati patterns
O. Conduct a piece by listening to it
P. Develop listening skills and appreciation in accordance with grade level objectives
Q. Develop an understanding of music in historical, social, and cultural context as well as its connection to other disciplines



Supplies and Curriculum for Start-up Charter Schools

Essential Items: All to be ordered by school principal and music teacher

Music Room:

60' X 30' soundproofed room for any school expected to house K-8 music program with storage cupboards for equipment, supplies, stereo, and instruments

Large industrial basin sink with running water

4' X 8' white board

Standard teacher's desk, 2 drawer file, 4 drawer file (for music storage)

30 stackable chairs, 25 music stands (13 stands for elementary program start-up)

Keyboard and Stereo:

Clavinova Keyboard (approx. \$3,000 1998 prices)

C.D./Cassette player with split trax capabilities

Curriculum:

Core Knowledge materials and NHA content standards

K-6 teacher's edition, C.D.'s, and 24 student books of "Share the Music" curriculum

Rhythm Instruments for Elementary Program:

(current contact: John Gillette@Marshall Music Company Grand Rapids office, will give 40-50% school discount) **Ordered in School Speciality Starting Kit for new schools**

24 rhythm sticks

2 pair maracas

3 triangles (small, medium, and large with strikers)

2 tambourines

2 sets wood blocks

2 pair claves

1 guiro

2 pair sand blocks

2 hand drums (one each, large and small)

1 small set of cymbals

1 set bongos

1 set of handle bells

4 sets wrists bells

1 each of alto xylophone and glockenspiel

Recorders:

(Recorders are part of the 4th grade curriculum standards)

25 alto recorders

13 "Hal Leonard" recorder books

Bowmar Orchestral Library:

(Music listening and appreciation are required as content standards and this set of C.D.'s would fulfill these requirements)

Series 1, 2, & 3 West Music Supply Company page # 89
CDBM5111; CDBM5112, CDBM5113

Games:

Instrument Bingo - page 14, Music in Motion Catalogue # 6107 \$29.95

Meet the Instruments Posters:

25, full-color 14" X 22" posters - page 22 Music in Motion Catalogue 35904,
\$77.00

McGraw Hill Companies Component Chart - Grade 4 - 2000

The items listed below are suggestions. To place an order: 1-800-442-9685, The McGraw Hill Companies, 220 East Daniieldale Road, Desoto, Texas 75115, www.mhschool.com

*** Music Teachers are able to place orders with other vendors due to availability**

0-02-295379-5	Pupil Edition	40.65	_____	_____
0-02-295390-6	Teacher's Edition (with Piano Accompaniment)	123.00	_____	_____
0-02-295379-5	Teacher's Edition	78.00	_____	_____
0-02-295417-1	Teacher's Resource Package	96.00	_____	_____
0-02-295426-0	Teacher's Resource Masters	17.25	_____	_____
0-02-295432-5	Signing for Intermediate Grades, Gr. 3-6	12.00	_____	_____
0-02-295410-4	Orchestrations for Orff Instruments	12.00	_____	_____
0-02-295403-1	Playing the Recorder	8.28	_____	_____
0-02-295498-8	Listening Map Transparencies	45.00	_____	_____
0-02-295439-2	Compact Discs	468.00	_____	_____

ADDITIONAL COMPONENTS

0-02-295445-7	Musica para todos for Intermediate Grades, Gr. 3-6	5.22	_____	_____
0-02-295364-7	Share World Music: Songs form Asia and Oceania, Gr. K-6	5.22	_____	_____
0-02-295365-5	Share World Music: Songs form Asia and Oceania Compact Discs, Gr. K-6	48.00	_____	_____

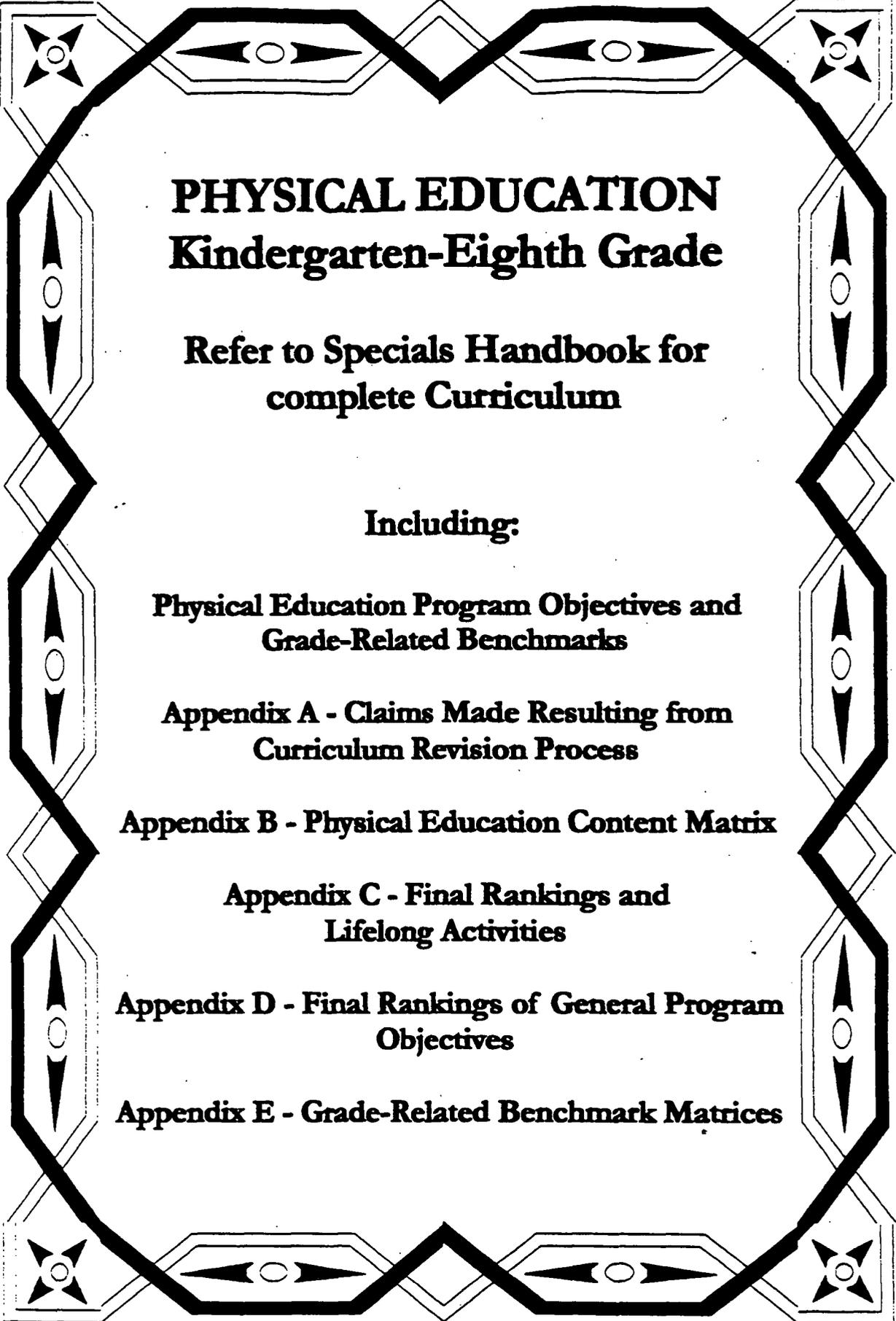
VIDEOTAPE PACKAGES

0-02-295480-5	Signing Videotape for Intermediate Grades, Gr. 3-6	36.99	_____	_____
0-02-295483-X	Musical Expression Videotape, Gr. 3-6	36.99	_____	_____
0-02-295484-8	Creating Musical Moods Videotape, Gr. 3-6	36.99	_____	_____
0-02-295485-6	Sounds of Percussion Videotape, Gr. 4-8	36.99	_____	_____
0-02-295486-4	Blending Musical Styles Videotape, Gr. 4-8	36.99	_____	_____
0-02-295487-2	Making a Music Video Videotape, Gr. 4-8	36.99	_____	_____
0-02-295488-0	The Mariachi Tradition Videotape, Gr. 1-8	38.49	_____	_____
0-02-295492-9	Introduction to the Computer in Music Videotape, Gr. 3-9	36.72	_____	_____

TECHNOLOGY

MUSIC WITH MIDI

0-02-295461-9	Standard Package	88.08	_____	_____
0-02-295467-8	Site License Package	333.00	_____	_____
0-02-295473-2	District License Package	828.00	_____	_____



PHYSICAL EDUCATION Kindergarten-Eighth Grade

**Refer to Specials Handbook for
complete Curriculum**

Including:

**Physical Education Program Objectives and
Grade-Related Benchmarks**

**Appendix A - Claims Made Resulting from
Curriculum Revision Process**

Appendix B - Physical Education Content Matrix

**Appendix C - Final Rankings and
Lifelong Activities**

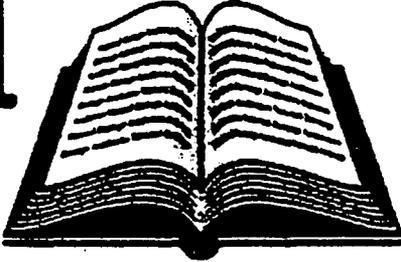
**Appendix D - Final Rankings of General Program
Objectives**

Appendix E - Grade-Related Benchmark Matrices

Fifth Grade

Curriculum Handbook 2001-2002

National Heritage Academies™



MISSION

Challenging children to achieve their greatest potential.

VISION

Our shared vision is to build a national organization of over 200 charter schools that become the finest K-8 schools in the country. Using a partnership with parents as our foundation, we will achieve this by combining rigorous, "back-to-basics" academics, strong moral development, and a universal commitment to all children.

PHILOSOPHY

National Heritage is guided by a few key principles that guide us in all our program decisions. First, we believe that a school environment with high academic and social expectations is necessary for students to thrive. Second, the company believes that parents have the ultimate responsibility for their children's education and, thus, will choose what is best for their children. Third, we believe that a school should support and reinforce the moral guidance a child receives at home. And, finally, we believe that a child's self-esteem is developed through diligence and achievement.

**The NHA Curriculum Handbooks are dedicated
to the 2001-2002 Teacher Presenter Team**

Teacher Presenter	School
Laura Bartlett	Greensboro
Michelle Bauman	Paramount
Jane Beal	Vista
James Robert Brown	Greensboro
Linda Chaffee	Walker
Kim Chapin	Eagle Crest
Melissa Flickinger	Chandler Woods
Daphne Franklin	South Arbor
Mary Claire Fu	Eagle Crest
Erin Greenop	Walker
Heather Guerra	Knapp
Tuwanda Hairston	Research Triangle
Casey Helmreich	North Saginaw
Sarah Huddleston	Forsyth
Emilie Johnson	Forsyth
Jeff Johnston	Greensboro
Diane Kennedy	Greensboro
Kimberly Kobylak	Linden
Kevin Kooiker	Vista
Johann Linna	Ridge Park
Mandy Lohman	Cross Creek
Angela Newton	Paramount
Nicole Pachulski	Walker
Kaylin Rhoades	Endeavor
Cynthia Ruble	Forsyth
Mary Scheidel	Cross Creek
Elizabeth Sinclair	Endeavor
Lois Smith	Cross Creek
Angie Spears	Excel
Kirt Stevens	Vista
Rudy Swofford	Greensboro
Krista Tolchin	Endeavor
Dawn Tubbs	Linden
Marsha VanderSloot	Vanguard
Kathy Watson	North Saginaw
Rebecca Weliver	South Arbor
Kathy White	Greensboro
Cathy Wygmans	Eagle Crest
Ellen Zainea	Knapp

Corporate Education Team
1-616-222-1700

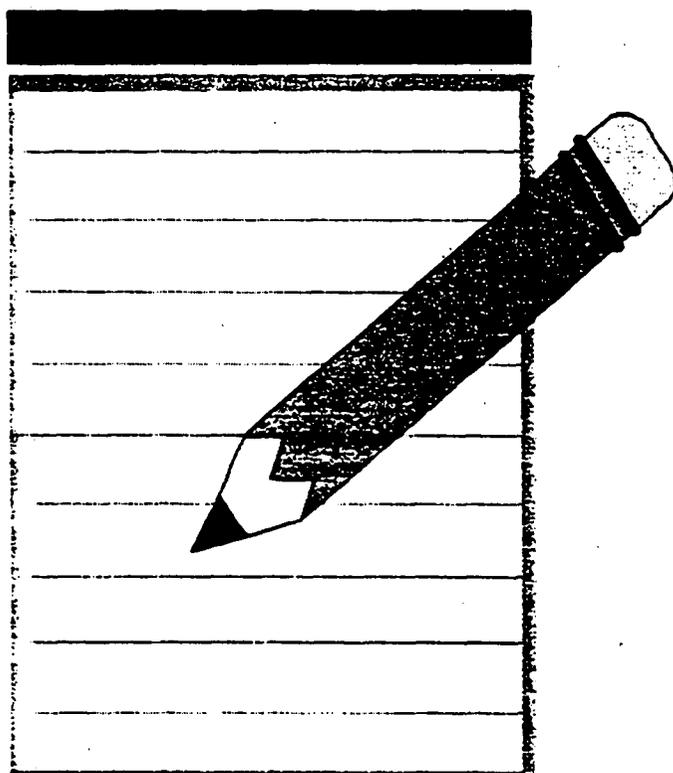
Team Member	Title/Email Address
Todd Avis	Director of Curriculum and Development tavis@heritageacademies.com
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Randy Creswell	Science Specialist rcreswell@heritageacademies.com
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Amy Lambries	Library Specialist alambries@heritageacademies.com
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Sallie Borrink	Special Projects Coordinator sallieANN9@aol.com
Mary Elizabeth Lee	Special Education Assistant mlee@heritageacademies.com
Jennifer Maze	Administrative Assistant jmaze@heritageacademies.com

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SUPPLY LIST FIFTH GRADE

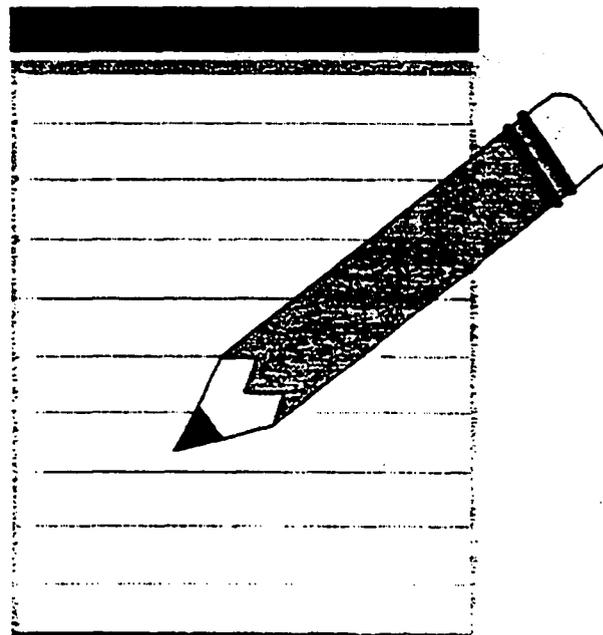
**The supplies are provided by NHA in
new classrooms in new and existing
schools.**



3RD GRADE - 8TH GRADE: START-UP SUPPLY LIST						
QTY ORD.	UNIT	STOCK #	DESCRIPTION	PAGE	UNIT PRICE	TOTAL PRICE
2	GR	041217	#2 PENCIL BX/144	16	8.12	16.24
1	BX	000783	LARGE BLOCK ERASER BX/40	18	4.93	4.93
2	DZ	027465	BLACK ROUND STIC PEN MED BX/12	19	1.14	2.28
2	DZ	027466	RED ROUND STIC PEN MED BX/12	19	1.14	2.28
2	DZ	027469	BLUE ROUND STIC PEN MED BX/12	19	1.14	2.28
12	EA	038850	CLASS. SEL. HIGHLIGHTER - YELLOW	25	0.14	1.68
1	ST	059178	FINE VIS-A-VIS PEN SET/4	253	2.66	2.66
12	ST	408115	WATERCOLOR MARKER ST/12	26	1.78	21.36
2	EA	023194	EXPO II CLEANER, 8 OZ.	27	1.69	3.38
3	EA	059640	EXPO DRY ERASER	27	1.88	5.64
2	ST	059460	EXPO MARKER SET/4	28	3.40	6.80
24	EA	015348	WOODEN 12" RULER	34	0.25	6.00
12	EA	015363	YARDSTICK W/METAL END	34	1.62	19.44
1	EA	038342	1670 SCHOOL PRO ELEC SHARPENER	37	35.40	35.40
1	EA	025983	3-HOLE PAPER PUNCH	38	4.17	4.17
2	EA	039423	HAND HELD PAPER PUNCH 1-HOLE	38	0.59	1.18
1	EA	061131	SWINGLINE 711 BLACK STAPLER	40	6.66	6.66
1	EA	061149	SWINGLINE 747 BLACK STAPLER	40	10.61	10.61
2	BX	061059	STANDARD STAPLES	41	0.52	1.04
2	EA	000354	9" TEACHER SHEARS	43	4.50	9.00
1	EA	371774	8" BENT TRIMMER SHEARS	43	1.52	1.52
24	EA	000327	5" CLIP QUALITY SCISSORS	45	0.63	15.12
12	RL	040722	1/2"X36YD PERMANENT MEND TAPE	46	0.60	7.20
12	RL	040587	3/4" UTILITY MASKING TAPE	47	0.70	8.40
1	EA	023127	C-38 BLACK TAPE DISPENSER	48	2.09	2.09
25	EA	023135	SMALL WASHABLE GLUESTICK	50	0.38	9.50
4	EA	035334	TAC'N STIK REUSEABLE ADHESIVE	53	1.09	4.36
5	BX	000057	PAPER CLIPS, STANDARD	54	0.12	0.60
5	BX	000072	PAPER CLIPS, JUMBO	54	0.31	1.55
1	BX	036981	2" BOOK RINGS, BOX/50	54	4.70	4.70
2	BX	059964	3/8" THUMB TACKS	55	0.24	0.48
1	BX	012291	CLEAR REPORT COVER BX/50	58	9.60	9.60
3	BX	023254	ASSORTED PORTFOLIO BX/25	59	4.85	14.55
10	PK	048267	3"X5" BLANK INDEX CARDS	62	0.43	4.30
10	PK	048270	3"X5" RULED INDEX CARDS	62	0.43	4.30
1	BX	070311	1/5 CUT LET HANGING FILE FOLDER	64	4.88	4.88
1	BX	015741	1/3 CUT FILE FOLDERS	65	5.63	5.63
1	EA	038946	14 MO. DESK PAD CALENDAR 2001/2002	70	1.64	1.64
1	EA	206771	SWIVEL DESKMATE ORGANIZER	72	7.27	7.27
3	EA	021354	DESK TRAY, BLACK	73	1.76	5.28
24	EA	043530	LEGAL CLIPBOARD	76	0.80	19.20
1	EA	038434	TI-34 SCIENTIFIC CALCULATOR	79	23.76	23.76
12	EA	040269	#79 INTERMEDIATE DICTIONARY	95	10.66	127.92
12	EA	040266	#78 STUDENTS THESAURUS	97	10.66	127.92
25	EA	522155	11X7 ASSIGNMENT BOOK	108	1.27	31.75
5	RM	000513	8.5"X11" FILLER PAPER W/MARG	118	3.12	15.60
2	RL	006483	3"X200' MANILA SENTENCE ROLL	126	2.99	5.98
1	PK	204686	18"X24" 125# MANILA TAGBOARD	130	7.56	7.56
1	PK	314478	18"X24" 125# WHITE TAGBOARD	130	7.56	7.56
1	PK	215982	12"X18" TAG BOARD -ASST COLOR PK/100	130	8.49	8.49
2	PK	053958	TRU 9"x12" MAGENTA CONST. PPR.	133	1.09	2.18

SUPPLY LIST FIFTH GRADE

**This is a comprehensive list of materials
needed to teach National Heritage
Academies' curriculum.
Each teacher must have access to these
supplies and materials.
Please see your principal for access.**



Vendor	Grade	Description	Quantity	Individual Price	Total
Center For Civic Ed.	Fifth	We The People Level 1 Set	1	\$165.00	\$165.00
George F. Cram Co.	Fifth	U.S./World Explorer Pol. Combo Map w/ insets	1	\$242.25	\$242.25
Debby & Co.	Fifth	Animal Kingdom	1	\$8.95	\$8.95
Debby & Co.	Fifth	Basic Economics	1	\$9.95	\$9.95
Debby & Co.	Fifth	Blank Map Outlines	1	\$9.95	\$9.95
Debby & Co.	Fifth	Democracy for Young Americans	1	\$13.95	\$13.95
Debby & Co.	Fifth	Elementary Economics	1	\$5.99	\$5.99
Debby & Co.	Fifth	History Simulations	1	\$11.95	\$11.95
Debby & Co.	Fifth	Immigration	1	\$10.95	\$10.95
Debby & Co.	Fifth	Industrial Revolution	1	\$9.95	\$9.95
Debby & Co.	Fifth	We the People (Duplicating Masters)	1	\$9.95	\$9.95
Debby & Co.	Fifth	Various Science Books **See AcademyLink Purchase Order form**			
Educ. Consult. Svc.	Fifth	Teaching Gifted Kids in the Regular Classroom	1	\$25.00	\$25.00
Educational Design	Fifth	MEAP Coach Science (1p/s)	1	\$9.95	\$9.95
Educational Design	Fifth	MEAP Coach Social Studies (1p/s)	1	\$9.95	\$9.95
Educational Design	Fifth	MEAP Coach Writing (1p/s)	1	\$9.95	\$9.95
Educator's Pub.	Fifth	Spellwell D (1p/s)	1	\$3.60	\$3.60
Educator's Pub.	Fifth	Spellwell DD (1p/s)	1	\$3.60	\$3.60
Educator's Pub.	Fifth	Spellwell D & DD, Teacher's Guide	1	\$2.00	\$2.00
Educator's Pub.	Fifth	Book 2, Vocabulary (1p/s)	1	\$4.75	\$4.75
Educator's Pub.	Fifth	Teacher's Key	1	\$3.65	\$3.65
Educator's Pub.	Fifth	Test, Book 2 (Package of 6)	1	\$5.35	\$5.35
Flinn	Fifth	Various Science Equipment **See AcademyLink Purchase Order form**			
Frey	Fifth	Various Science Consumable Supplies **See AcademyLink Purchase Order form**			
Great Source	Fifth	Daily Geography	1	\$21.95	\$21.95
Great Source	Fifth	Daily Geography Student Book (10pk)	1	\$21.95	\$21.95
Great Source	Fifth	Daily Oral Language	1	\$21.95	\$21.95
Great Source	Fifth	Daily Oral Language Student Book (10pk)	1	\$21.95	\$21.95
Hirsch	Fifth	Books To Build On	1	\$10.95	\$10.95
Hirsch	Fifth	Core Knowledge Sequence Content Guidelines	1	\$22.50	\$22.50
Hirsch	Fifth	Listen, My Children (Poem/Anthology) (1p/s)	1	\$4.95	\$4.95
Hirsch	Fifth	The Schools We Need and Why We Don't Have Them	1	\$24.95	\$24.95
Hirsch	Fifth	What Your Fifth Grader Needs to Know	1	\$12.95	\$12.95
Holt, Rinehart	Fifth	(Adelante) Grammar and Vocab Workbook, TE w/ Key (1p/s)	1	\$11.25	\$11.25
Holt, Rinehart	Fifth	Adelante - Annotated Teacher's Edition	1	\$51.15	\$51.15
Holt, Rinehart	Fifth	Adelante - Audiocassette Program	1	\$129.00	\$129.00

Holt, Rinehart	Fifth	Adelante - Pupil's Edition (1 set of 25 p/grade)	1	\$37.95	\$37.95
Holt, Rinehart	Fifth	Adelante - Video Program	1	\$198.00	\$198.00
Learning Express	Fifth	30 in 1 Electronic Kits	1	\$19.95	\$19.95
Network	Fifth	Cumulative Writing Folder (25 w/ TE)	1	\$15.00	\$15.00
Network	Fifth	Developing an Effective Writing Program	1	\$10.00	\$10.00
Network	Fifth	Five Types of Writing Assignments (Poster)	1	\$4.00	\$4.00
Network	Fifth	Implementing the Cumulative Writing Folder	1	\$10.00	\$10.00
Network	Fifth	Selecting and Teaching Focus Correction Areas: Plan Guide	1	\$6.00	\$6.00
Network	Fifth	Strategies for Young Writers	1	\$5.00	\$5.00
Network	Fifth	Writers Marks (Poster)	1	\$4.00	\$4.00
Saxon	Fifth	Activity Guide	1	\$25.00	\$25.00
Saxon	Fifth	Basic Fact Cards (1p/s)	1	\$5.00	\$5.00
Saxon	Fifth	Student Edition Math 65 (1p/s)	1	\$40.00	\$40.00
Saxon	Fifth	Teacher's Edition	1	\$40.00	\$40.00
Saxon	Fifth	Test Masters	1	\$45.00	\$45.00
Shurley Method	Fifth	Level 5 Kit 2nd Edition	1	\$345.00	\$345.00
Shurley Method	Fifth	Level 5 Poster Set	1	\$35.00	\$35.00
Shurley Method	Fifth	Level 5 Student Workbook (1p/s)	1	\$12.00	\$12.00
Shurley Method	Fifth	Level 5 Transparency Set	1	\$55.00	\$55.00
SRA/McGraw Hill	Fifth	Math Explorations and Applications Kit	1	343.95	\$343.95
SRA/McGraw Hill	Fifth	Collections For Young Scholars, Vol. 5, Book 1 (1p/s)	1	\$33.51	\$33.51
SRA/McGraw Hill	Fifth	Collections For Young Scholars, Vol. 5, Book 2 (1p/s)	1	\$33.51	\$33.51
SRA/McGraw Hill	Fifth	Comprehension Checkpoints	1	\$10.23	\$10.23
SRA/McGraw Hill	Fifth	Explorer's Notebook (1p/s)	1	\$9.18	\$9.18
SRA/McGraw Hill	Fifth	Explorer's Notebook, Response Guide	1	\$9.75	\$9.75
SRA/McGraw Hill	Fifth	Framework for Effective Teaching, Teacher's Guide, Gr. 5, Book 1	1	\$82.98	\$82.98
SRA/McGraw Hill	Fifth	Framework for Effective Teaching, Teacher's Guide, Gr. 5, Book 2	1	\$82.98	\$82.98
SRA/McGraw Hill	Fifth	Overview Planner	1	\$14.04	\$14.04
SRA/McGraw Hill	Fifth	Reading/Writing Skills Practice (1p/s)	1	\$9.75	\$9.75
SRA/McGraw Hill	Fifth	Reading/Writing Skills Practice, Teacher's Edition	1	\$14.61	\$14.61
SRA/McGraw Hill	Fifth	Skills Assessment (3p/s x # of students in class)	1	\$9.75	\$9.75
SRA/McGraw Hill	Fifth	Skills Assessment, Teacher's Edition	1	\$14.61	\$14.61
SRA/McGraw Hill	Fifth	Student Toolbox	1	\$219.54	\$219.54
SRA/McGraw Hill	Fifth	Teacher Toolbox	1	\$439.11	\$439.11
SRA/McGraw Hill	Fifth	Reading Labs - OPTIONAL **See AcademyLink Purchase Order form**	1		
Virginia	Fifth	Civics	1	\$30.00	\$30.00
Virginia	Fifth	Core Democratic Values Posters	1	\$30.00	\$30.00

Virginia	Fifth	Economics	1	\$30.00	\$30.00
Zaner Bloser	Fifth	Handwriting Helper Kit CURSIVE	1	\$119.99	\$119.99
Zaner Bloser	Fifth	Handwriting Paper Ream	3	\$8.19	\$24.57
Zaner Bloser	Fifth	Handwriting Transparencies	1	\$82.99	\$82.99
Zaner Bloser	Fifth	Wall Strip	1	\$20.99	\$20.99
Zaner Bloser	Fifth	Teacher's Edition, Practice Masters, and Poster Super Pak	1	N/C	

**SUPPLY LIST
FURNITURE
FIFTH GRADE**



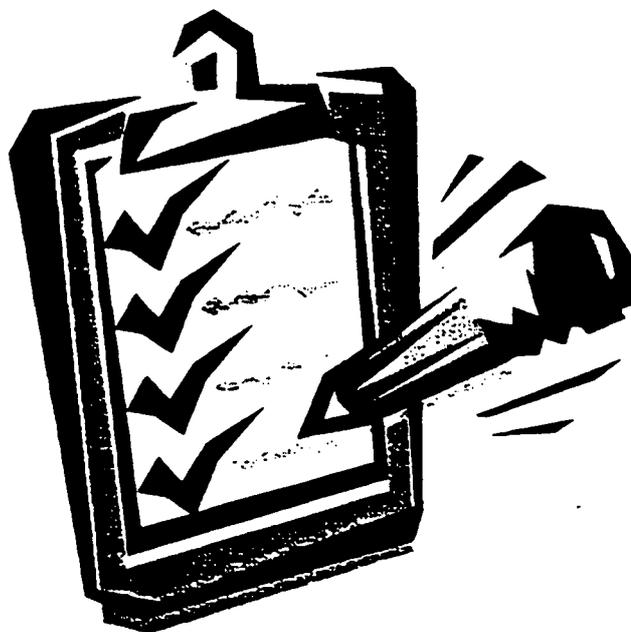
**2000-2001 FURNITURE TABLES PER ROOM
24 Students Per Classroom**

Fifth Grade

Ref. #	Item	Description	Amt.	Ordered By
1	Teacher Desk	HON34961 Double Ped	1	NHA
2	Teacher Chair	HON 7901 Task Chair	1	NHA
3	4-Drawer File	Hon 524 4 Drawer File	1	NHA
5	Tackboard 2x4	Best Rite 311AC	1	Bouma
6	Tackboard 4x8	Best Rite 311AH	2	Bouma
7	Markerboard 5x10	Best Rite 202AL	1	Bouma
	Tack Strip 5x10	532K	1	Bouma
14	Student Desks	Artco Bell 9503 Open Front	24	NHA
19	Kidney Table	Artco Bell 1275 48x72	1	NHA
21	Computer Table	Artco Bell CD60	1	NHA
12	Large Chair	Artco Bell 7107 17 1/2"	30	NHA
8C	4 shelf Bookshelf	Lee Metal 48"	3	NHA
	Flag bracket		1	Bouma
	Computer		1	NHA Tech
	Waste Basket	Large & Small	1 ea	Foremost
	Pencil Sharpener		1	Bouma
	Clock		1	Bouma
	Telephone		1	Moss

REPORT CARD FIFTH GRADE

**Template for 2001-2002
All teachers will use the
AcademyLink report module
for Fall 2001**



Fifth Grade Report Card

940

	Marking Period			
	1	2	3	4
Reading				
Comprehension				
Expands vocabulary through reading				
Uses appropriate strategies				
Fluency				
Reads fluently				
Literature				
Understands different genre types				
Understands literary devices				
Comments:				

	Marking Period			
	1	2	3	4
Language Arts				
Spelling				
Spells words in daily work				
Masters weekly lists				
Grammar				
Daily Oral Language				
Understands parts of speech				
Penmanship				
Writes neatly in daily work				
Writes with proper form				
Composition				
Completes writing process completely				
Mechanics (usage and punctuation)				
Research skills				
Oral Presentation				
Expresses ideas clearly				
Formal presentation				
Uses listening skills				
Vocabulary development				
Comments:				

	Marking Period			
	1	2	3	4
Mathematics				
Completes daily assignments				
Knows basic facts				
Uses algorithms for computing addition and subtraction				
Uses algorithms for multiplication and division				
Understands place value				
Understand fractions				
Finds equivalent fractions				
Adding and subtracting of fractions				
Multiplies and divides of fractions				
Converts a fraction to a decimal and a percent				
Divides by one and two digit divisors				

Student Name: _____ Teacher: _____

Can find the area and perimeter of polygons				
Can add and subtract positive and negative numbers				
Can identify geometric solids				
Can reduce fractions to lowest terms				
Participates in daily oral math				

Comments:

941

History/Geography/Government				
Knows basic map skills				
Completes projects on time				
Takes accurate notes				
Understands American Colonization and Settlement				
Understands American Westward Expansion				
Understands the American Civil War and Reconstruction				
United States (fifty states and capitals)				
Understands Civics/Economics				
Participates in class discussion				
Completes daily assignments				
Participates in daily oral history/geography/government				

Comments:

Science				
Lab Activities and Experiments				
Completes lab activities accurately				
Participates in discussion				
Completes projects/assignments on time				
Completes projects accurately				
Understands scientific concepts				
Uses Scientific Method				
Takes accurate information				

Comments:

Student Name: _____ Teacher: _____

Moral Focus				
Justice – the principle of just dealing or right action				
Accepts responsibility for own actions				
Demonstrates compassion and kindness				
Temperance – moderation in thought, action, or feeling				
Completes assignments on time				
Submits homework on time				
Uses time wisely				
Works without disturbing others				
Prudence – the ability to govern and discipline oneself				
Displays good manners				
Displays self-control				
Respectful of property, other students, and adults				
Works cooperatively				
Fortitude – the strength of mind to endure with courage				
Follows directions				
Listens attentively				
Works independently				
Comments:				

Art				
Uses time wisely				
Demonstrates good conduct				
Demonstrates grade level art skills				
Graded work				
Comments:				

Physical Education				
Participates in class activities				
Demonstrates appropriate skill development				
Demonstrates appropriate cognitive skills through testing				
Demonstrates positive attitude toward subject				
Demonstrates teamwork				
Demonstrates sportsmanship				
Overall performance				
Comments:				

Student Name: _____ Teacher: _____

Music				
General music				
Demonstrates appropriate attitude toward subject				
Demonstrates basic music concepts				
Listens and participates				
Music Theory				
Demonstrates ability to play melody and accompaniment				
Demonstrates ability to notate music				
Demonstrates compositional skills and understanding				
Demonstrates keyboarding/instrumental skills				
Demonstrates reading notated music				
Understands basic music terminology and symbols				
Music history/listening				
Demonstrates knowledge of composers studied				
Demonstrates music listening skills				
Identifies compositions studied				
Identifies families of instruments				
Identifies instruments by sight and sound				
Recorders				
Comes prepared to class				
Demonstrates fingering/playing skills				
Demonstrates reading music notation				
Participates in group/ensemble				
Turns in homework and graded project work				
Instrumental/choral music				
Comes prepared to class				
Completes homework and graded projects				
Concert performance and attendance				
Demonstrates appropriate playing/singing skills				
Demonstrates appropriate reading skills				
Participates in group/ensemble				
Understands music terminology and symbols				
Comments:				

Student Name: _____ Teacher: _____

Final Comments:

944

Report Card Legend

Letter Grade	Remarks
A	Excellent
B	Good
C	Satisfactory
D	Needs Improvement
F	Does not meet requirements

Skill Scale	Remarks
4	Student shows accuracy, appropriateness, quality, and originality.
3	Can apply the skill or concept correctly and independently.
2	Shows some understanding. Errors or misunderstandings occur. Teacher reminders, hints, and suggestions are necessary.
1	Cannot complete the task or skill independently. Shows little understanding of the concept. Quality is lacking.

Assigned to : _____ Grade

Student Name: _____ Teacher: _____

BLOOM'S TAXONOMY GRADE FIVE

Based on *Bloom's Taxonomy*—Developed by
Linda G. Barton, M.S. Ed. EDUPRESS EP 504

QUICK QUESTIONS FOR CRITICAL THINKING



Introduction

Bloom's Taxonomy divides the way people learn into three domains. One of these is the *cognitive* domain which emphasizes intellectual outcomes. This domain further divides into categories which are arranged progressively from the lowest level of thinking, simple recall, to the highest, evaluating information.

Quick Questions for Critical Thinking can be used in the home, classroom or workplace to develop all levels of thinking within the cognitive domain. The results will be improved attention to detail, increased comprehension and expanded problem solving skills. Find the box containing the level you wish to challenge. Use the **Key Words** as guides to structuring questions and tasks. Finish the **Questions** with content appropriate to the learner.

Level I

Knowledge: Exhibit memory of previously-learned material by recalling facts, terms, basic concepts and answers.

Key Words: who what why when omit where which
 choose find how define label show spell
 list match name relate tell recall select

- Questions:**
- * What is ... ?
 - * Where is ... ?
 - * How did _____ happen?
 - * Why did ... ?
 - * When did ... ?
 - * How would you show ... ?
 - * Who were the main ... ?
 - * Which one ... ?
 - * How is ... ?
 - * When did _____ happen?
 - * How would you explain ... ?
 - * How would you describe ... ?
 - * Can you recall ... ?
 - * Can you select ... ?
 - * Can you list the three ... ?
 - * Who was ... ?

Level I - Knowledge

Level II

Comprehension: Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions and stating main ideas.

Key Words:	compare	contrast	demonstrate	interpret	explain
	extend	illustrate	infer	outline	relate
	rephrase	translate	summarize	show	classify

Questions:

- * How would you classify the type of ... ?
- * How would you compare ... ? contrast ... ?
- * Will you state or interpret in your own words ... ?
- * How would you rephrase the meaning ... ?
- * What facts or ideas show ... ?
- * What is the main idea of ... ?
- * Which statements support ... ?
- * Can you explain what is happening ... ? what is meant ... ?
- * What can you say about ... ?
- * Which is the best answer ... ?
- * How would you summarize ... ?

Level II - Comprehension

Level III

Application: Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.

Key Words:	apply	build	choose
	construct	develop	interview
	make use of	organize	experiment with
	plan	select	solve
	utilize	model	identify

Questions:

- * How would you use ... ?
- * What examples can you find to ... ?
- * How would you solve _____ using what you've learned ... ?
- * How would you organize _____ to show ... ?
- * How would you show your understanding of ... ?
- * What approach would you use to ... ?
- * How would you apply what you learned to develop ... ?
- * What other way would you plan to ... ?
- * What would result if ... ?
- * Can you make use of the facts to ... ?
- * What elements would you choose to change ... ?
- * What facts would you select to show ... ?
- * What questions would you ask in an interview with ... ?

Level III - Application

Level IV

Analysis: Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations.

Key Words:	analyze	categorize	classify
	compare	contrast	discover
	dissect	divide	examine
	inspect	simplify	survey
	take part in	test for	distinguish
	list	distinction	theme
	relationships	function	motive
	inference	assumption	conclusion

Questions:

- * What are the parts or features of ... ?
- * How is _____ related to ... ?
- * Why do you think ... ?
- * What is the theme ... ?
- * What motive is there ... ?
- * Can you list the parts ... ?
- * What inference can you make ... ?
- * What conclusions can you draw ... ?
- * How would you classify ... ?
- * How would you categorize ... ?
- * Can you identify the different parts ... ?
- * What evidence can you find ... ?
- * What is the relationship between ... ?
- * Can you make a distinction between ... ?
- * What is the function of ... ?
- * What ideas justify ... ?

Level IV - Analysis

Level V

Synthesis: Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions.

Key Words:	build	choose	combine
	compile	compose	construct
	create	design	develop
	estimate	formulate	imagine
	invent	make up	originate
	plan	predict	propose
	solve	solution	suppose
	discuss	modify	change
	original	improve	adapt
	minimize	maximize	delete
	theorize	elaborate	test
	improve	happen	change

- Questions:**
- * What changes would you make to solve ... ?
 - * How would you improve ... ?
 - * What would happen if ... ?
 - * Can you elaborate on the reason ... ?
 - * Can you propose an alternative ... ?
 - * Can you invent ... ?
 - * How would you adapt _____ to create a different ... ?
 - * How could you change (modify) the plot (plan) ... ?
 - * What could be done to minimize (maximize) ... ?
 - * What way would you design ... ?
 - * What could be combined to improve (change) ... ?
 - * Suppose you could _____ what would you do ... ?
 - * How would you test ... ?
 - * Can you formulate a theory for ... ?
 - * Can you predict the outcome if ... ?
 - * How would you estimate the results for ... ?
 - * What facts can you compile ... ?
 - * Can you construct a model that would change ... ?
 - * Can you think of an original way for the ... ?

Level V - Synthesis

Level VI

Evaluation: Present and defend opinions by making judgments about information, validity of ideas or quality of work based on a set of criteria.

Key Words:	award	choose	conclude
	criticize	decide	defend
	determine	dispute	evaluate
	judge	justify	measure
	compare	mark	rate
	recommend	rule on	select
	agree	appraise	prioritize
	opinion	interpret	explain
	support	importance	criteria
	prove	disprove	assess
	influence	perceive	value
	estimate	influence	deduct

- Questions:**
- * Do you agree with the action ... ? with the outcome ... ?
 - * What is your opinion of ... ?
 - * How would you prove ... ? disprove ... ?
 - * Can you assess the value or importance of ... ?
 - * Would it be better if ... ?
 - * Why did they (the character) choose ... ?
 - * What would you recommend ... ?
 - * How would you rate the ... ?
 - * What would you cite to defend the actions ... ?
 - * How would you evaluate ... ?
 - * How could you determine ... ?
 - * What choice would you have made ... ?
 - * What would you select ... ?
 - * How would you prioritize ... ?
 - * What judgment would you make about ... ?
 - * Based on what you know, how would you explain ... ?
 - * What information would you use to support the view ... ?
 - * How would you justify ... ?
 - * What data was used to make the conclusion ... ?
 - * Why was it better that ... ?
 - * How would you prioritize the facts ... ?
 - * How would you compare the ideas ... ? people ... ?

Level VI - Evaluation

**LANGUAGE ARTS
FIFTH GRADE
Reading and Grammar**

Content Standards and Objectives

**Scheduled Suggestions for
Open Court Reading**

Open Court Assessment Overview

Open Court Assessment/Monitoring

Instructional Collection

NHA Library Media Centers

The Shurley Method

Why The Shurley Method?

The Shurley Method Assessment



I. MEANING AND COMMUNICATION

Content Standard 1: All students will read and comprehend general and technical material.

Objective	Lessons		
	Open Court	Core Knldg	Shurley Method
1. Use reading for multiple purposes, such as enjoyment, gathering information, learning new procedures, and increasing conceptual understanding.	X	X	
2. Read with developing fluency a variety of texts, such as short stories, novels, poetry, textbooks, menus, periodicals and reference materials.	X	X	
3. Employ multiple strategies to construct meaning, including the use of sentence structure, vocabulary skills, context clues, text structure, mapping, predicting, retelling, and generating questions.	X	X	X
4. Employ multiple strategies to recognize words as they construct meaning, including the use of phonics, syllabication, spelling patterns, and context clues.	X		X
5. Respond to oral, visual, written, and electronic texts, and compare their responses to those of their peers.			

Content Standard 2: All students will demonstrate the ability to write clear and grammatically correct sentences, paragraphs, and compositions.

Objective	Lessons		
	Open Court	Core Knldg	Shurley Method
1. Write fluently for multiple purposes to produce compositions, such as stories, reports, letters, plays, and explanations of processes.	X		
2. Recognize and use authors' techniques in composing their own texts. Examples include effective introductions and conclusions, different points of view, grammatical structure, and appropriate organization.	X		X
3. Plan and draft texts, and revise and edit in response to suggestions expressed by others about such aspects as ideas, organization, style and word choice.	X		X
4. Identify multiple language conventions and use them when editing text. Examples include recognition of nouns, verbs, and modifiers, capitalization rules, punctuation marks, and spelling.	X		X

Content Standard 3: All students will focus on meaning and communication as they listen, speak, view, read, and write in personal, social, occupational, and civic contexts.

Objective	Lessons		
	Open Court	Core Knldg	Shurley Method
1. Integrate listening, speaking, viewing, reading, and writing skills for multiple purposes and in varied contexts. An example is using all the language arts to prepare and present a unit project on a selected state or country.	X	X	

2. Analyze the impact of variables on components of the communication process. Examples include the impact of background noise on an oral message and the effect of text errors, such as spelling or grammar, on the receiver.	X		X
3. Read and write fluently, speak confidently, listen and interact appropriately, view knowledgeably, and represent creatively. Examples include exploring ideas in a group, interviewing family and friends, and explaining ideas represented in pictures.	X		
4. Distinguish between verbal and nonverbal communication and identify and practice elements of effective listening and speaking. Examples include recognizing the impact of variations of facial expression, posture, and volume on oral communication.	X		
5. Employ multiple strategies to construct meaning while reading, listening to, viewing, or creating texts. Examples include summarizing, predicting, generating questions, mapping, examining picture cues, analyzing word structure and sentence structure, discussing with peers, and using context and text structure.	X		X
6. Determine the meaning of unfamiliar words and concepts in oral, visual, and written texts by using a variety of resources, such as prior knowledge, context, glossaries, and electronic sources.	X		X
7. Recognize and use texts as models and employ varied techniques to construct text, convey meaning, and express feelings to influence an audience. Examples include effective introductions and conclusions, different points of view, and rich descriptions.	X		
8. Express their responses to oral, visual, written, and electronic texts, and compare their responses to those of others.	X		X

II. LANGUAGE

Content Standard 4: All students will use the English language effectively.

Objective	Lessons		
	Open Court	Core Knidg	Shurley Method
1. Describe language patterns used in their spoken, written, and visual communication contexts, such as school, neighborhood, sports, children's periodicals, and hobbies.	X		X
2. Describe how features of English, such as language patterns and spelling, vary over time and from place to place and how they affect meaning in formal and informal situations. An example is exploring regional language variations in the United States.	X		X
3. Begin to recognize how words and phrases relate to their origin. Examples include surnames and names of bodies of water or landmarks.	X	X	X
4. Explore how words normally considered synonyms can carry different connotations when used in a variety of spoken and written texts.	X		X
5. Recognize and use language appropriate for varied contexts and purposes. Examples include community building, mathematics class, team sports, friendly and formal letters or invitations, requests for information, interviews with adults, and significant discussions.		X	

III. LITERATURE

Content Standard 5: All students will read and analyze a wide variety of classic and contemporary literature and other texts to seek information, ideas, enjoyment, and understanding of their individuality, our common heritage and common humanity, and the rich diversity in our society.

Objective	Lessons		
	Open Court	Core Knldg	Shurley Method
1. Select, read, listen to, view, and respond thoughtfully to both classic and contemporary texts recognized for quality and literary merit.	X	X	
2. Describe and discuss the shared human experiences depicted in literature and other texts from around the world. Examples include birth, death, heroism, and love.	X	X	
3. Demonstrate awareness that characters and communities in literature and other texts reflect life by portraying both positive and negative images.	X	X	
4. Describe how various cultures and our common heritage are represented in literature and other texts.	X	X	
5. Describe how characters in literature and other texts form opinions about one another in ways that can be fair and unfair.	X	X	

IV. VOICE

Content Standard 6: All students will learn to communicate information accurately and effectively and demonstrate their expressive abilities by creating oral, written, and visual texts that enlighten and engage an audience.

Objective	Lessons		
	Open Court	Core Knldg	Shurley Method
1. Practice using elements of effective communication to enhance their relationships in their schools and communities. Examples include use of enunciation of terms, use of humor, and use of emphasis.	X	X	X
2. Explain the importance of developing confidence and a unique presence or voice in their own oral and written communication.	X	X	
3. Identify the style and characteristics of individual authors, speakers and illustrators and how they shape text and influence their audiences' expectations.	X	X	
4. Reveal personal voice by explaining growth in learning and accomplishment through their selection of materials for different purposes and audiences. Examples include portfolios, displays, literacy interviews, and submissions for publications.	X		

V. SKILLS AND PROCESSES

Content Standard 7: All students will demonstrate, analyze, and reflect upon the skills and processes used to communicate through listening, speaking, viewing, reading, and writing.

Objective	Lessons		
	Open Court	Core Knldg	Shurley Method
1. Use a combination of strategies when encountering unfamiliar texts while constructing meaning. Examples include retelling, predicting, generating questions, mapping, examining pictures cues, analyzing word structure, discussing with peers, analyzing phonetically, and using context and text structure.	X		
2. Monitor their progress while using a variety of strategies to overcome difficulties when constructing and conveying meaning.	X	X	

3. Apply new learning by forming questions and setting learning goals that will aid in self-regulation and reflection on their developing literacy.	X		
4. Develop and use a variety of strategies for planning, drafting, revising, and editing different forms of text for specific purposes. Examples include brainstorming, revising with peers, sensitivity to audience, and strategies appropriate for purposes, such as informing, persuading, entertaining and inspiring.	X		

VI. GENRE AND CRAFT OF LANGUAGE

Content Standard 8: All students will explore and use the characteristics of different types of texts, aesthetic elements, and mechanics – including text structure, figurative and descriptive language, spelling, punctuation, and grammar – to construct and convey meaning.

Objective	Lessons		
	Open Court	Core Knldg	Shurley Method
1. Identify and use mechanics that enhance and clarify understanding. Examples include sentence structure, paragraphing, appropriate punctuation, grammatical constructions, conventional spelling, and relating in sequence an account of an oral or visual experience.	X		X
2. Identify and use elements of various narrative genre and story elements to convey ideas and perspectives. Examples include theme, plot, conflict, and characterization in poetry, drama, story telling, historical fiction, mystery and fantasy.	X	X	
3. Identify and use characteristics of various informational genre (e.g., periodicals, public television programs, textbooks, and encyclopedias) and elements of expository text structure (e.g., organizational patterns, supporting details, and major ideas) to convey ideas.	X	X	
4. Identify and use aspects of the craft of the speaker, writer, and illustrator to formulate and express their ideas artistically. Examples include intonation, hues, design, perspective, dialogue, characterization, metaphor, simile, and points of view.	X		
5. Describe and use the characteristics of various oral, visual, and written texts (e.g., films, library databases, atlases, and speeches) and the textual aids they employ (e.g., footnotes, menus, addresses, graphs, and figures) to convey meaning.	X		

VII. DEPTH OF UNDERSTANDING

Content Standard 9: All students will demonstrate understanding of the complexity of enduring issues and recurring problems by making connections and generating themes within and across texts.

Objective	Lessons		
	Open Court	Core Knldg	Shurley Method
1. Explore and reflect on universal themes and substantive issues from oral, visual, and written texts. Examples include exploration, discovery, and formation of personal relationships.	X		

2. Draw parallels and contrasts among key ideas, concepts, and varied perspectives found in multiple texts.	X		
3. Use conclusions based on their understanding of differing views presented in text to support a position.	X		

VII. IDEAS IN ACTION

Content Standard 10: All students will apply knowledge, ideas, and issues drawn from texts to their lives and the lives of others.

Objective	Lessons		
	Open Court	Core Knldg	Shurley Method
1. Identify how their own experiences influence their understanding of key ideas in literature and other texts.	X	X	
2. Combine skills to reveal their strengthening literacy: Examples include writing and illustrating a text, reading and then orally analyzing a text, and listening to and then summarizing a presentation.	X	X	
3. Use oral, written, and visual texts to research how individuals have had an impact on people in their community and their nation. Examples include creating texts to inform others about school or community issues or problems.	X	X	

VIII. INQUIRY AND RESEARCH

Content Standard 11: All students will define and investigate important issues and problems using a variety of resources, including technology, to explore and create texts.

Objective	Lessons		
	Open Court	Core Knldg	Shurley Method
1. Generate questions about important issues that affect them or topics about which they are curious, and use discussion to narrow questions for further research.	X	X	
2. Identify and use resources that are most useful and most readily available for the particular questions or topics they wish to investigate. Examples include knowledgeable people, field trips, tables of contents, indexes, glossaries, icons/headings, hypertext, storage addresses, CD-ROM/laser disks, electronic mail, and library catalogue databases.			
3. Organize and analyze information to draw conclusions and implications based on their investigation of an issue or problem.	X	X	
4. Using multiple media, develop and present a short presentation to communicate conclusions based on the investigation of an issue or problem. Examples include charts, posters, transparencies, audio tapes, videos, and diagrams.			

Later Elementary Language Arts Standards and Grade Level Benchmarks

IX. CRITICAL STANDARDS

Content Standard 12: All students will develop and apply personal, shared, and academic criteria for the enjoyment, appreciation, and evaluation of their own and other's oral, written, and visual texts.

Objective	Lessons		
	Open Court	Core Knldg	Shurley Method
1. Develop individual standards for effective communication for different purposes and compare them to their own oral, visual, and written texts. An example is evaluating a project report in terms of personal standards for content, style, and organization.	X		
2. Develop and apply both individual and shared standards based on exemplary works creative for varied purposes and contexts.	X	X	
3. Demonstrate preferences in reading, writing, speaking, listening, viewing, and representing based on aesthetic qualities and explain their choices.	X		
4. Create a collection of personal work selected according to both individual and shared criteria, judging the merit of each selection.	X		X
5. Develop standards to analyze how the style and substance of personal messages reflect the values of a communicator.	X	X	

SCHEDULING SUGGESTIONS FOR OPEN COURT READING (2000 Edition)

- Do at least one activity from Part One/Green Section and at least one activity from Part Three/Blue Section each day
- Also do the Part Two/Red Section as follows:

DAYS 1 & 2 (DAY 1 only if 3-day lesson plan):

- Word Study (not part of K, 1, 2:1, or 3:1)
- Clues & Problems and include in this six of the Vocabulary words, pronouncing them only and not using transparency
- Reading the Selection, Teaching Comprehension Strategies and doing end-of-story Discussion
- Literary Elements and Skills Sheet
- Pre-Writing from the Process Writing
- Meeting Individual Needs and Independent Work Time

DAYS 3 & 4 (DAY 2 only if 3-day lesson plan):

- Second Reading of the Selection
- Vocabulary - from the transparency first, then using context clues
- Teaching Comprehension Skills during the Second Reading
- Teach Literary Elements by having students include new technique as they write their Draft from the Process Writing - or - students find places in writing they have already done to Revise and use the new technique
- Meeting Individual Needs and Independent Work Time

DAY 5 (DAY 3 if 3-day lesson plan):

- Silent Reading of Selection and/or discussion with Theme Connections
- Inquiry Notebooks
- Comprehension Assessment
 - Grammar Skill - do worksheet **or**
 - use this skill in your Process Writing **or**
 - do Skills Assessment Sheet
- Meeting Individual Needs and Independent Work Time

FIRST READING

- g Activate Prior Knowledge
 - Browse
 - Set Reading Goals and Expectations
 - Vocabulary
- r Oral Reading (Modeling Strategies)
 - Discussion (using information from browsing and setting reading goals and expectations)
- b Writing (Literary Element)
 - Writing Process
 - Independent Work Time (not necessarily every group this day)

SECOND READING

- g Vocabulary
- r Theme Connections
 - Record Ideas
 - Skills Reading
 - Skills Sheet
- b Writing Process
 - Independent Work Time

THIRD READING

- p 20 minutes for the project
- r Partner or Silent Reading
 - Inquiry Notebook
 - Comprehension Assessment and/or Skills Assessment
- b Grammar Skill (pulled in with the Writing Process)
 - The teacher will select either:
 - 1) the worksheet on the skill
 - 2) go back to the student's writing and proof-read for the skill/if not there "How can we make our piece better by adding the skill?"
 - 3) skills assessment page
 - Writing
 - Independent Work Time

UNIT _____: LESSON _____

Part One (may take 2 days)**GREEN**

- Word Knowledge p. _____
- Build Background p. _____
- Preview and Prepare p. _____ Transparency p. _____
- Selection Vocabulary p. _____

RED

- Class Reading Story p. _____
 Story Title: _____
 ➡ Left side of the Manual Questions (Strategies)
- Discussion (Did we answer our purpose for reading?)

BLUE

- Writing: Literary Elements p. _____
 Concepts: _____
 RW WB p. _____
- Writing Process p. _____
 Concepts: _____
- Independent Work Time

☺ WORKSHOP ☺

- Handwriting p. _____
- Spelling p. _____
- Reading Folders:
 Reteach p. _____
 Skills p. _____
 Challenge p. _____
- _____
- _____

UNIT _____: LESSON _____

Part Two (1 day)

GREEN

- Vocabulary p. _____ Transparency p. _____

RED

- Theme Connections (end of story) p. _____
- Relook at Story p. _____
 Story Title: _____
 ➔ Right side of the Manual Questions (Skills)
- Skills Sheet p. _____ RW WB p. _____
 p. _____ RW WB p. _____

BLUE

- Writing Process p. _____
 Concepts: _____
 RW WB p. _____
- Independent Work Time

☺ WORKSHOP ☺

- Handwriting p. _____
- Spelling p. _____
- Reading Folders:
 Reteach p. _____
 Skills p. _____
 Challenge p. _____
- _____
- _____

UNIT _____: LESSON _____

Part Three (may take 2 days)

PROJECT

- 20 Minutes for Project Work Time (PURPLE p. _____)
-

RED

- Partner or Silent Reading p. _____
 Story Title: _____
 ➤ Uninterrupted reading time
- Inquiry Journal p. _____
 ⇨ Recording Concept Information IJ p. _____
 ⇨ Other Pages p. _____ Concept: _____ IJ p. _____
 p. _____ Concept: _____ IJ p. _____

PURPLE

- Comprehension Assessment p. _____ CW A p. _____
 Skills Assessment p. _____ S A p. _____

BLUE

- Grammar Skills p. _____
 Concept: _____
 ➤ Choose one or more
1. Worksheet on the skill p. _____
 2. Proof/edit student work
 3. Skill Assessment p. _____ (PURPLE)
- Writing Process p. _____
 Concept: _____
- Independent Work Time

☺ WORKSHOP ☺

- Handwriting p. _____
- Spelling p. _____
- Reading Folders:
 Reteach p. _____
 Skills p. _____
 Challenge p. _____
- _____
- _____

Extra skills to work on:

OPEN COURT ASSESSMENT OVERVIEW

“True assessment is a tool for learning rather than a mere measure of achievement.”
SRA/Open Court Reading Author, Joe Campione

The goal of true assessment is to inform instruction. It helps determine what students know and how to change the instruction to help students learn what they need to know.

The assessment components of SRA/Open Court Reading reflect the balanced nature of the series itself. The following are principles that guided the development of the assessment components.

Ease of Use for the Teacher

The assessments are easily administered and scored, feature the same language that is used in the instructional components of the series, and correspond to the sequence of instruction in the series. The assessments are typically short enough to prevent fatigue from affecting student performance yet long enough to provide a dependable measure of student skills and abilities.

Assessment of Critical Skills

The skills that are featured prominently in the series—the skills that are critical to the reading process—are the focus of assessment. These same skills are typically included on standardized tests and in state standards, so the assessments will help teachers respond to the accountability system under which they work.

Variety in Assessment

In addition to the formal and informal assessments, SRA/Open Court Reading includes:

Pre-and Post-tests

Unit Tests

Comprehension Assessment

Self-Assessment

Portfolio Assessment

Family Evaluation

OPEN COURT ASSESSMENT AND MONITORING

ASSESSMENT TO INFORM INSTRUCTION

Variety of Assessment Tools

Pre-and Post-Tests

Unit Tests

Comprehension Assessment (Previously Comprehension Checkpoints)

Self-Assessment

Portfolio Assessment

Family Evaluation

PURPOSE: Detect children's strengths and weaknesses through informal monitoring.

PROCEDURES: Observation Logs
(Reproducible masters)

Monitoring Written Work
(Reproducible masters)

Individual Conferences

CONTINUOUS ASSESSMENT

Materials

- * Assessment Guide
- * Assessment Masters

Monitoring

(Teacher's Observation Logs)

Reading Performance Assessment

(Using Phonics Minibooks)

Writing Performance Assessment

(3 or 4 during the year)

Portfolios

Written Tests

Fifth Grade - Instructional Collection

POETRY:

Core Knowledge

- The Arrow and The Song (Henry Wadsworth Longfellow)
- Barbara Frietchie (John Greenleaf Whittier)
- Battle-Hymn of the Republic (Julia Ward Howe)
- A Bird came Down the Walk (Emily Dickinson)
- Casey at the Bat (Ernest Lawrence Thayer)
- The Eagle (Alfred Lord Tennyson)
- I Hear America Singing (Walt Whitman)
- I like to see it lap the miles (Emily Dickinson)
- I, too, sing America (Langston Hughes)
- Incident (Countee Cullen)
- Jabberwocky (Lewis Carroll)
- Narcissa (Gwendolyn Brooks)
- O Captain! My Captain! (Walt Whitman)
- Paul Revere's Ride (Henry Wadsworth Longfellow)
- A Poison Tree (William Blake)
- The Road Not Taken (Robert Frost)
- The Snowstorm (Ralph Waldo Emerson)
- Some Opposites (Richard Wilbur)
- The Tiger (William Blake)
- A Wise Old Owl (Edward Hersey Richards)

READ ALOUD STORIES:

- Snow Treasure
- Johnny Tremain
- Roll of Thunder Hear My Cry
- The Hatchet
- Pink and Say (Patricia Polacco)

NOVEL UNITS: (select three)

- Where the Red Fern Grows
- Number the Stars
- Dear Mr. Henshaw (O.C.)
- Buffalo Woman (O.C.)
- Tom Sawyer *Core Knowledge*

SPEECHES:

- Abraham Lincoln: The Gettysburg Address *Core Knowledge*

Notes/Comments:

The above selections can all be found in **Listen, My Children.**

National Heritage Academies Library Media Centers

The mission of the library media program at National Heritage Academies is to provide the students and educators with equitable access to information, ideas, and learning/teaching tools. The library media centers at National Heritage Academies are a growing resource of information for the staff and students. Resources include books, videos, periodicals, online reference resources, traveling projection systems and various teacher workbooks and posters. Many schools include video cameras, digital cameras and other technology for circulation. Our collections are developed to support the curriculum and provide students with literature. An OPAC system (online card catalog) is available at each computer terminal in each school building. Searching for materials can be done from the classroom as well as the library media center.

In order to support the curriculum and the activities taking place at each individual school, students may use the Library Media Center for research, study, reading, browsing, fact-finding and any other educational purpose. Students are encouraged to visit the library media center during school hours--either individually or as a class. Each building will prepare a schedule for weekly class visits and/or individually arranged class visits.

Materials are checked out to students for one week. If a student wishes to renew a book, he/she may do so at any time. It is important for the books to be returned on time and in good condition.

If a book is lost or damaged, the student is held responsible for that book. The student will be notified of the cost of the book and be expected to reimburse the school for the damaged or unreturned property. The amount charged will be the original purchase price of the book. If books are not returned or paid for, report cards may be held.

Accelerated Reader (AR) is a motivational reading program that is networked throughout National Heritage Academies. The program deals with individual reading levels, reading comprehension, and assessment. It involves reading books, taking quizzes on the computer and the earning of points. Many of our schools have an established school wide-program that is run by the teachers and/or library staff. In other schools, teachers use AR individually with their classes. The staff and/or administration at each school determine how this program is facilitated.

Teachers and staff are welcome at any time in the library media center to browse, search, and check out materials. They are encouraged to contact the librarian with any special requests for materials. Librarians are available to meet with teachers for planning purposes or curriculum needs.

The library media center at a National Heritage Academies school strives to be a fountain of information for growing, learning, and fun. Welcome!

SHURLEY GRAMMAR METHOD

The approach used by The Shurley Method is active learning, with students physically and cognitively engaged in the learning process. Success in learning Shurley English is predicated on the reinforcement of language skills. Students memorize rhyming jingles for each of the parts of speech. In unison, they chant these jingles in a kind of language symphony until they have internalized the concepts of nouns and verbs. A Shurley classroom is one of energized learning, where students teach as well as learn. They move back and forth from group activities to independent learning exercises, from a mastery of grammar skills to creative writing exercise. In fact, students, almost without exception, beg for more class time to write.

Despite the fact that memorization and repetition have not been in vogue in recent years in American schools, they are fundamental to the success of the Shurley Method. Rarely does a Shurley student return to classes at the start of a new school year needing to be retaught concepts he/she mastered during the previous school year. The retention is permanent.

The Shurley Program provides students with two important ingredients for success: a love of the English language and the ability to use the English language correctly with ease and confidence.

WHY THE SHURLEY METHOD?

- *The Shurley Method* is the end result of twenty-five years of research. Actual classroom situations and the learning needs of students were used to develop this exciting English program.
- *The Shurley Method* never teaches concepts in isolation. A concrete set of questions about each word in a sentence is used to teach students how all the parts of a sentence fit together. Students always have a clear picture of how to write complete sentences.
- Students are constantly exposed to “see it, hear it, say it, do it,” activities that meet the visual, auditory, and kinesthetic learning types of students.
- *The Shurley Method* successfully teaches language skills to students with different learning abilities and to students who learn English as a second language.
- *The Shurley Method* uses repetition, fun and student-teacher interaction to help students learn difficult English skills. The teacher models each new step in *The Shurley Method* for the students. Then the students actively participate with the teacher as the steps are practiced.
- *The Shurley Method* provides enough repetition to master each concept taught. Lessons include daily practice of old skills while new skills are being added.
- The students are taught how to merge a strong skill foundation with the writing process. As a result, teachers can spend less time going over beginning grammar and editing skills and more time introducing and enhancing advanced grammar and writing skills.
- Students’ grammar and writing skills are used automatically with dependable results. This leads to higher level thinking skills because the students are stimulated to learn and use their own thought processes to solve difficult language problems.
- The most important effect of *The Shurley Method* on students may not be their increased grasp of language and improved grammar and writing skills. Instead, the greatest impact may be the students’ heightened self-confidence and self-esteem. Not only do the students gain confidence in English, but they carry this improved attitude into other subject areas as well.

THE SHURLEY METHOD ASSESSMENT

3-Day Rotation Schedule Assessment

Day 1 – Teach

(No test will be given to students on Day 1.)

1. Vocabulary and Definition Time
2. Introduce the new grammar concept and classify sentences orally.
3. Leave classified sentences on the board or transparency for Oral Skill Builder Check.
4. Write a Practice Sentence and an Improved Sentence with your class.

Day 2 – Review, Teach, and Test

(Tests will be given to students. You will use one test sheet every 3 days.)

1. Vocabulary and Definition Time.
2. Classify same sentences orally (again).
3. Teach the other English concepts that will be tested.
4. Erase the board or remove the transparency and give the student worksheet as a test. Students are tested on the same sentences that they have classified orally together. This helps students gain the confidence to work with many skills independently and helps weak readers concentrate on learning English skills without struggling with reading vocabulary.

Day 3 – Teach and Check

(Hand the tests back)

1. Vocabulary and Definition Time.
2. Classify same sentences orally (again).
3. Leave classified sentences on the board or transparency as a visual aid when checking student tests.
4. Discuss mistakes and how to improve.

2-Day Rotation Schedule (Skip Day 1 – Oral Day)

Day 2 – Review, Teach, and Test

(Tests will be given to students. You will use one test sheet every 3 days.)

1. Review grammar by classifying sentences.
2. Teach the other English concepts that will be tested.
3. Give students the worksheet as a test.

Day 3 – Review and Check

1. Review grammar by classifying sentences.
2. Hand test back. Discuss mistakes and how to improve.

Checking Options

Teacher Graded: Select one or two sentences from the top section and several items from the bottom section to check for a grade. Then have students check the rest of the sheet with you as a practice exercise. Use a teacher-directed word-by-word check. Students focus not only on mistakes but also on correct responses. This will show them the mistakes they made, and they can use this knowledge to do better on the next test.

Student Graded: Train double checkers to help weak checkers and to grade absent students' papers.

**LANGUAGE ARTS
FIFTH GRADE**

Writing

**Collins Writing Program
Philosophy: The Teaching of Writing
Collins Writing Strategies
Teacher Resources
Assessing Your Current Writing Program**



COLLINS WRITING PROGRAM

Philosophy: The Teaching of Writing in NHA Schools

ON THE TEACHING OF WRITERS:

A belief system about how children develop as language users from birth through adulthood and what teachers should do in their classrooms to foster that growth is essential to any writing curriculum. Moreover, to provide integrated and meaningful instruction and accountability, the writing program must be organized around a system for managing the writing process. The following is meant to be a guide to teaching "writers" in the classroom.

1. **Children as language users:**

National Heritage Academies believes that children come to school with an innate curiosity about writing and a desire for meaningful, real-world communication, and that writing is one of the most complex intellectual tasks they will need to accomplish. Further, children develop writing skills in a manner that mirrors the way they learn to talk. Teachers, then, teach "writers" rather than "writing," and children become writers by the very act of writing itself. We believe that teachers help children view and define themselves as thinkers and writers by involving them with the real occurrences of their minds, hearts and world and that writing enhances the learning process of any subject at any level.

2. **Classroom culture of active literacy:**

What teachers *do* in the classroom positively impacts students' development as writers more often than what teachers *say* in the classroom. The conditions that promote the development of writers are the same as those that facilitate learning to talk:

- *Immersion:* creating a language-rich and print-rich environment
- *Demonstration:* modeling of writing in the classroom by the teacher
- *Expectation:* subtly communicating to children that they will learn to write
- *Responsibility:* giving students opportunities to be responsible for their own learning
- *Approximation:* encouraging and respecting children's writing efforts
- *Employment:* making time and opportunities for writing
- *Feedback:* allowing patience with the growth process

National Heritage Academies wants its classrooms to be places where children come expecting to write each day with the knowledge that their efforts will be valued, supported and respected.

3. **A skill for thinking across the curriculum:**

National Heritage Academies believes that students should have frequent and varied opportunities to write in *all* content areas. Writing is an aid to thinking and organizing ideas across the curriculum rather than merely a subset of the language arts curriculum. It is a balance of process (how people communicate) and product (what they communicate).

4. **Managing and evaluating a program for writing:**

Because we understand that writing is a necessary skill for effective communication and expression, and realizing that people learn to write by writing, there must be a workable system of instruction. That system must be coupled with an assessment system to measure levels of achievement in both the student and the teacher.

National Heritage Academies has adopted **The Collins Cumulative Writing Folder Program** to support teachers in building an effective and experiential writing program within their classrooms and the school. The Collins Writing Program provides schools with a writing program— a unified set of techniques and expectations about student writing— that can be developed and reinforced over a period of years, as well as a way to measure levels of achievement in both students and teachers. It involves:

- Integrating writing across the curriculum using Five Types of Writing
- (noted on the following two pages)
- Encouraging a balance of process and product
- Encouraging ownership through a student-centered program of instruction
- Ensuring the development of critical writing and thinking skills
- Making the program student-centered
- Involving frequent writing opportunities
- Affording a practical and manageable program for both teacher and student.

The Cumulative Writing Folder Program consists of four elements: a writing management system and three teaching strategies. The strategies are:

- Oral reading
- Focus correcting
- Using past papers to teach new skills

The Program has been successfully used in special education, with the gifted and talented, and in English as a second language programs. Each element reinforces the others.

Realizing each teacher's need to understand instructional expectations as well as to be supported in those expectations, a workable "Scope and Sequence for the Teaching of Writers" will be forthcoming.

A list of resources from the Collins Education Associates follows The Collins Writing Strategies.

Type One: Writing that has no correct answer – or, if there is a correct answer, it's okay to be wrong

Purpose: To capture ideas, questions, reactions

Evaluation: A check + or -, 10 pts. or 0 pts., a "smiley face" or no "smiley face," a jelly bean or a coffee bean . . . in other words – it's up to you. **"Reasonable best effort"**

Basic Guidelines: 1. Always skip a line 3. Provide a minimum volume
2. Always label the type of writing 4. Provide a maximum time limit

Advantages: *Spontaneous, minimal preparation *Takes very little class time
*Effective thinking stimulus for all *Promotes writing fluency

Type Two: Writing that makes a point - has a correct answer

Purpose: To show that the writer knows something about the topic or has thought about it

Evaluation: Type Two writing is like a quiz; mistakes in content count. Writing style and mechanics do not count – the content counts. **"Reasonable best effort"**

Basic Guidelines: 1. Always skip a line 3. Provide a maximum time limit
2. Always label the type of writing 4. Avoid numbering

Advantages: *Spontaneous, little pre-planning *Promotes writing fluency
*Quick assessment *Promotes writing in the content areas

Type Three: Writing that has content and focus correction areas

Purpose: To produce a single draft that meets the standards set by the focus correction areas (FCA). Type Three writing is read out loud by the author to see if it does three things:

- Completes the assignment
- Sounds correct-easy to read
- **Avoids errors in the focus correction areas**

Evaluation: Evaluation is based solely on FCAs. **"Reasonable best effort"**

Basic Guidelines: 1. Always skip a line 3. Maximum of three focus areas/paper
2. Always place FCAs in the upper left

Advantages: *Very efficient *Ease of evaluation

Type Four: Writing that has been read out loud and critiqued by another – two drafts

Purpose: To produce the best possible work in two drafts. Writer follows the same steps as Type Three, repeats steps with a peer, and produces the best possible second draft that is placed in **The Cumulative Writing Folder**.

Evaluation: Evaluation is based on focus correction areas. **“Reasonable best effort”**

Basic Guidelines: 1. Always skip a line 3. Maximum of three focus areas/paper
2. Always place FCAs in the upper left

Advantages: *Fair, objective evaluations
*Provides a systematic, clear, and logical sequence of writing skills

Type Five: Writing that can be published and go outside the classroom without explanation or qualification – multiple drafts

Purpose: To produce the best writing possible. Writer follows the same steps as Type Four to create a paper void of errors.

Evaluation: Type Five writing is usually a major project. It must meet all standard conventions.

Basic Guidelines: 1. Always skip a line
2. Always label the type of writing in rough drafts

Advantages: *Great final product *Promulgates full range of skills
*Real-world standards

It has been our experience that many teachers, especially after a full day workshop with opportunities for “hands-on” practice, can effectively implement many of our ideas in their own classrooms.

However, most teacher training has failed miserably because it tends to be “hit and run” in nature. A basic assumption of our work is that writing instruction will be most effective when it is supported by a program—a unified set of teaching techniques and expectations about student writing that are developed and reinforced over a period of years. This kind of program development takes time and commitment. We believe that writing instruction must also be evaluated on a regular basis to provide teachers and students with clear and achievable goals from one year to the next. Therefore we have developed an extensive variety of program development services:

Examples of our teacher support and program development service sessions:

- * demonstration lessons
- * developing strategies for state assessment tests
- * establishing an in-house evaluation model
- * practice developing great writing assignments
- * individual department/grade level sessions
- * practice developing appropriate FCAs

Developed by Mark E. Dressel, Collins Education Associate 616.361.1839

COLLINS WRITING - TEACHER RESOURCES:

Center for Effective Communication-Collins Education Associates LLC:

The following publications may be found on the *AcademyLink Purchase Order form* for **The Network (formerly Collins)** and can be purchased through your building principal (textbook budget). It is recommended that each teacher have the following:

1. **Cumulative Writing Folders** - for each student in grades 1-8 for use in helping to manage the classroom writing program. Teachers of grades 1-3 should order the **Primary Cumulative Writing Folders**. Teachers of kindergarten may want to develop their own "folder system" for writing management.
2. **Developing an Effective Writing Program for the Elementary Grades** by Gary Chadwell.
3. Middle School Teachers: **Developing Writing and Thinking Skills Across the Curriculum** by Gary Chadwell.

Additional Recommended Resources:

1. Frank, Marjorie. **If You're Trying To Teach Kids How To Write...you've gotta have this book!** Incentive Publications, Inc., Nashville, Tennessee. 1979. (ISBN: 0-86530-317-7). Can be purchased through most bookstores. All Grades.
2. Areglado, Nancy and Dill, Mary. **Let's Write: A Practical Guide to Teaching Writing in the Early Grades- K-2**. Scholastic Professional Books, New York. 1997, (ISBN: 0-590-93102-4). Can be purchased through teacher stores or most bookstores. Early Grades.
3. Butler, Andrea and Turbill, Jan. **Towards a Reading-Writing Classroom**. Primary English Teaching Association, NSW, Australia: Heinemann, 1984. (ISBN: 0-435-08461-5).
4. Atwell, Nancie. **Coming to Know: Writing to Learn in the Intermediate Grades**. Portsmouth, NH: Heinemann, 1990. Presents many ways to use writing in content area study, including learning logs and research projects in every subject.
5. Calkins, Lucy. **The Art of Teaching Writing**. Portsmouth, NH: Heinemann, 1994.
6. Lane, Barry. **After 'The End': Teaching and Learning Creative Revision**. Portsmouth, NH: Heinemann, 1993.

Assessing Your Current Writing Program

You already have a writing program in place in your classroom, one shaped by your beliefs and attitudes about writing instruction. It's driven by techniques and strategies you use with your students, and it's organized around a system you use for managing the writing process. The survey that follows will help you assess your current writing program by helping to identify what you emphasize most and least in your own classroom. It will give you a snapshot of your current writing program.

After you complete this survey, your findings will enable you to reaffirm, challenge, or recalibrate some of your assumptions and help you make strategic decisions about ways to improve your writing program.

Writing Program Assessment Survey For Elementary Grades

Instructions: For each of the activities that follow, give a rating of 0-5 that most accurately describes how often you do the activity during a year. This self-assessment will be most valuable if you are candid in your estimates. Try not to overestimate; rather than rating the items based on how much you like them, rate them on how often you actually do them.

- 0 - Do not do
- 1 - Infrequently (one to three times a year)
- 2 - Occasionally (four to six times a year)
- 3 - Regularly (once a month)
- 4 - Frequently (twice a month)
- 5 - Very frequently (once a week or more)

PROGRAM VALUES

- ___ 1. Give students low-risk writing opportunities such as free writing or journal writing.
- ___ 2. Take overt steps, such as writing along with your students, to create a classroom culture of active literacy.
- ___ 3. Provide frequent opportunities for students to write in all content areas.

PREWRITING ACTIVITIES

- ___ 4. Involve students in writing projects based on their personal experiences, reading experiences, or class discussions.
- ___ 5. Engage students in discussions and activities that clarify writing projects, generate ideas, and help in planning and organizing writing.
- ___ 6. Provide models, including examples of other students' writing, to help guide your students' writing efforts.

DRAFTING ACTIVITIES

- ___ 7. Provide opportunities for students to write in many forms (narratives, letters, reports, poems, and so on).
- ___ 8. Provide opportunities for students to write for various *purposes* (to inform, entertain, persuade, explain, and so on) and various *audiences* (parents, peers, authors, public officials, and others).
- ___ 9.* Provide students with specific criteria that they can use to guide their thinking and writing and that you use to provide feedback on the writing project.

REVISING AND EDITING ACTIVITIES

- ___ 10. Model revising strategies (elaborating, sentence combining, eliminating unnecessary words or phrases, checking for sentence variety, and so on) that help students review and improve their writing.
- ___ 11. Teach grammar and mechanical skills in relation to students' current writing experiences.
- ___ 12. Encourage students to proofread their own work (checking for punctuation, capitalization, and spelling).
- ___ 13. Encourage students to peer-edit each other's papers before they are finalized.
- ___ 14. Involve students in maintaining a portfolio of their writing that they can review and use to develop new writing skills.

SHARING ACTIVITIES

- ___ 15.* Encourage students to read their work out loud - to themselves and others - as part of the writing process.
- ___ 16. Display or "publish" examples of high-quality writing.
- ___ 17. Give writers positive, specific feedback on their work.
- ___ 18. Conduct individual writing conferences with students.

___ **Total Score**

*One of the Critical Four strategies

Interpreting Your Score

What does the survey tell me? Even before you total your score, a look at your survey provides some insights into your writing program. Since time is a valuable commodity in the classroom, your responses show you how you are using this scarce resource. The strategies you have rated as 4 or 5 are the “cornerstones” of your writing program because you are giving significant time to them. These are the strategies that drive your writing program.

The survey also shows you areas where you are giving little emphasis. These areas may not be emphasized in your classroom for any number of reasons. You may feel that they are not critical to your students' development as writers or that they are not appropriate for your students. Other low-rated strategies may be ones that you value but have not yet been able to effectively incorporate into your teaching.

What is a good score? Obviously, as your score approaches 90 it means that you have rated virtually all of the 18 items at 4 or 5. Although these 18 items represent an excellent overview of effective writing practice, you may ask whether it is necessary to use all of them with great frequency to have an effective writing program. Your question is a common one that subsumes other, related questions: Can I do all these things regularly with the number of students I have? With my time constraints? With my curriculum demands?

So, what's the lowest score I could get and still have an effective writing program? A score in the 54-72 range is the basis for an effective writing program. A score higher than 72 would indicate that writing is already a prominent component of your classroom culture. A score lower than 54 (18 items multiplied by an average score of 3) could indicate that writing is not done often enough or that your writing instruction does not provide the kind of consistent focus students need to improve as writers. The strategies on this survey have little impact on improving students' writing when used randomly.

How do I use the survey to improve my writing program? In addition to looking at your overall score, you might want to look at your scores in the five sections of the survey – Program Values, Prewriting Activities, Drafting Activities, Revising and Editing Activities, and Sharing Activities. Do your scores in one or more sections seem noticeably higher or lower than scores in other sections?

In reviewing your scores in the five sections, don't overlook the fact that some of the strategies have benefits in several aspects of the writing process – not only the one in which it is categorized in the survey. A good example is item 15 (*Encourage students to read their work out loud – to themselves and others – as part of the writing process*) which is a strategy appropriate for drafting, revising and editing, as well as sharing. This is a critical strategy for young writers because it focuses attention on the overall quality of the written message rather than on the individual words. Its use is also beneficial in several stages of the writing process.

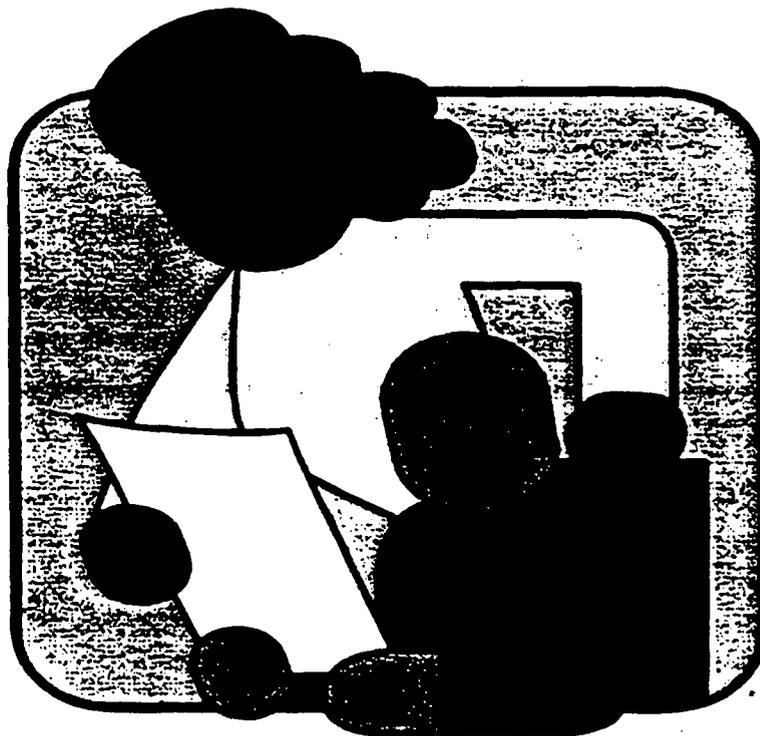
One way to use this survey is to consider carefully your scores on items 3, 9, 14, and 15 – the Critical Four strategies. I have identified these as the Critical Four strategies because high scores in these areas ensure that your writing program is headed in the right direction. It means that students are writing often, you are focusing your writing instruction, and you are showing students ways to be effective resources to themselves and others.

Making changes in any of these areas takes thought and effort, so avoid the temptation to change too many things at once. After reviewing your survey, choose two of the strategies that you feel would have the greatest impact on improving your students' writing and work on improving those. They may be two of the Critical Four or others that you think will benefit your students.

You may want to read more about the 18 strategies before you decide where to begin. Chapters 2-6 of this book focus on the strategies from the survey and Action Steps for each one. The remainder of the book looks at ways to use the Critical Four strategies to create an effective writing program for your young writers and provides some suggestions for communicating about your program to parents.

MATH FIFTH GRADE

Saxon Math
Saxon Math Assessment
Pacing Whole Group Instruction
Saxon Grade Level Curriculum



SAXON MATH

Saxon Math grew out of a decade of intense classroom interaction with students in which the goal was for students to learn and remember the foundational skills of mathematics. The term “foundational” is appropriate because mathematics, perhaps more than any other subject, is a cognitive structure that builds upon prior learning. The ultimate height and stability of the mathematical structure within each individual are determined by the strength of the foundation. The text, as well as each book that precedes or follows, provides the student with the time and opportunities necessary to build a rock-solid foundation in beginning mathematics. For this to occur it is essential that all practice problems and all problem sets be completed by the students.

THE SAXON PEDAGOGY

Incremental development, continual review, and frequent, cumulative testing. There are three pillars of Saxon Mathematics.

- Incremental development means that concepts are taught in small, easily understood pieces that are presented in individual lessons over the course of the academic year.
- Once an increment has been taught, it is reviewed daily through worksheets and homework sets—a process called continual review. As concepts grow in complexity, earlier increments are included. Thus, all concepts and skills can be practiced on a daily basis without the homework sets becoming large and unwieldy. Over time, incremental development and continual review foster assimilation, mastery, and complete understanding of concepts and skills.
- Frequent, cumulative testing allows students to prove their mastery of skills before new concepts are introduced. Assessments encompass all concepts and skills that students have practiced.

SUCCESS WITH SAXON MATHEMATICS

There is considerable evidence from the educational community to suggest why Saxon’s pedagogy of incremental development, continual review, and frequent, cumulative testing should be successful. What follows—support ranging from experimental studies to anecdotal evidence—suggests that this pedagogy is in fact successful.

Studies indicate that Saxon’s Mathematics texts:

- can increase student test scores (Reed 1983; McBee 1984; Sistrunk and Benton 1992); Calvery, Bell, and Wheeler 1993; Rentschler 1994; Mayers 1995; Sanders 1997);
- can benefit students of low and average ability (Klinge and Reed 1984; Johnson and Smith 1987; Calvery, Bell, and Wheeler 1993);
- can lower math anxiety in students (Lafferty 1994);
- may help minority students narrow the math achievement gap (Sistrunk and Benton 1992); and
- are preferred (over traditional texts) by students and faculty (Johnson and Smith 1987 and Nguyen 1994a).

One of the most comprehensive studies of the effectiveness of Saxon textbooks was conducted between 1992 and 1994 by the Planning, Research, and Evaluation Department of the Oklahoma City public school system (Ngyuen 1994b). The study encompassed K-5 students in over three hundred classrooms using non-Saxon programs. Analysis of the 1994 ITBS scores for the Saxon students and a comparison group of the non-Saxon students revealed that:

Overall, the Saxon group scored higher than the comparison group of students in all comparisons. Five of these comparisons were statistically significant ($p < .01$): complete composite, total math, math concepts, problem solving, and reading comprehension. The other four comparisons also favored the Saxon group; however, the differences were not statistically significant: math computation, science, social studies, and total language.

Comments from teachers and administrators:

- *"The first four years (using Saxon) my class had the highest scoring on the state ISTEP test in Muncie, which has twelve elementary schools. Last year we were number one in problem solving in the city."* Mel Botkin, Retired Teacher, Muncie, IN
- *"Students are taking more math classes than ever before in the history of the school. In 1989 (before Saxon), we had about 30% of the student body in the math program. Today, almost the entire student body is involved."* Larry Cone, Teacher, Muskegon, MI
- *"I see improvement in retention of skills using Saxon at all levels. Often young people come into eighth grade believing they 'can't do math' and change their minds (after using) Saxon."* Cylinda Rucker, Teacher, Eagleville, MO
- *"Probably the most exciting thing about using Saxon this year was seeing students develop their ability to apply what they had already learned to new topics. Another tremendous benefit was no longer seeing the blank looks regarding topics covered earlier in the year."* Elizabeth A. Moody, Teacher, Hudson, NH
- *"All seventh-graders were tested before studying Saxon and scored in the range from 8th percentile to 97 percentile. Class average was 44th percentile. After one year of instruction using Saxon Algebra 1/2, the median score for the same students was 97th percentile."* Frederick H. Maas, Teacher, Santa Fe, NM
- *"Our math scores have dramatically improved. All of my teachers love the Saxon materials."* Mike Hanke, Principal, Green Bay, WI
- *"The special education students are catching up. Many no longer qualify for special education after two years of Saxon."* Marvin Miles, Teacher, Blackfoot, ID

Conclusion

The Saxon pedagogy has its roots in the classroom. It is a method that was developed specifically to improve long-term retention of concepts and skills. For twenty years, and with increasing refinement, the Saxon pedagogy has been applied to a range of subjects and grade levels. Because of its effectiveness and ease of use, tens of thousands of teachers across the United States and abroad have embraced the Saxon methodology, and millions of students have benefited from mathematics instruction based on incremental development, continual review, and cumulative testing.

SAXON MATH ASSESSMENT

GENERAL ASSESSMENT

An available test booklet contains two forms of tests for every five lessons. The second test form may be used for make-up testing. Tests should be given about five lessons after the last concept has been taught. Thus Test 1, which covers topics from Lesson 1 through Lesson 5, should be given after Lesson 10. Test 2 should be given after Lesson 15, Test 3 after Lesson 20, and so on. This allows the students time to learn the new topic before being tested on it. Students will make excellent progress if they are able to score 80% or better on the tests. Students who fall below the 80% level should be given remedial attention immediately. Some teachers choose to test every ten lessons using only the even-numbered or odd-numbered tests. This is an acceptable alternative to testing every five lessons.

Stephen Hake
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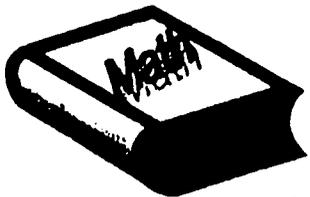
PACING WHOLE-GROUP INSTRUCTION

When teaching the Saxon program through whole-group instruction, pacing is key. It is important that each student have the opportunity to complete the entire textbook during the school year. The chart below offers guidance about the number of lessons that should be completed during each grading period.

SAXON PUBLISHING			SCHOOLS USING QUARTER/SEMESTER SYSTEM			
Edition	Title	Total No. Lessons	1st Quarter Lessons	2nd Quarter Lessons	3rd Quarter Lessons	4th Quarter Lessons
2nd	<i>Math 54</i> Lessons and Problem Sets	141	1-35	36-70	71-105	106-141
2nd	<i>Math 54</i> Tests	28	1-6	7-13	14-20	21-28
2nd	<i>Math 65</i> Lessons and Problem Sets	140	1-35	36-70	71-105	106-140
2nd	<i>Math 65</i> Tests	28	1-6	7-13	14-20	21-28
2nd	<i>Math 76</i> Lessons and Problem Sets	138	1-35	36-70	71-105	106-138
2nd	<i>Math 76</i> Investigations	6	1	—	2-3	4-6
2nd	<i>Math 76</i> Tests	28	1-6	7-13	14-20	21-28
2nd	<i>Math 87</i> Lesson and Problem Sets	120	1-30	31-60	61-90	91-120
2nd	<i>Math 87</i> Investigations	12	1-3	4-6	7-9	10-12
2nd	<i>Math 87</i> Tests	24	1-5	6-11	12-17	18-Final
2nd	<i>Algebra 1/2</i> Lessons and Problem Sets	123	1-31	32-62	63-93	94-123
2nd	<i>Algebra 1/2</i> Extra Topics *	10	—	—	—	A-J
2nd	<i>Algebra 1/2</i> Tests	31	1-6	7-14	15-22	23-31

For example, at the end of the second quarter *Math 65* students should have completed Lesson 70 and Test 13.

* These topics are discretionary enrichment units. The ones that are used should be taught in the final term of the academic year so that students will have the information fresh in their minds during standardized tests.



I. Patterns, Relationships, and Functions	
Content Standard 1: Students recognize similarities and generalize patterns, use patterns to create models and make predictions, describe the nature of patterns and relationships and construct representations of mathematical relationships. (Patterns)	
<i>Objective</i>	<i>Lessons/Methodology</i>
1. Recognize, describe and extend numerical and geometric patterns.	L 30-35, 51-54, 98-101, 117-119, 123-126, 198-200, 210-211, 219, 228-230, 239, 364-365, 467-470
2. Represent and record patterns and relationships in a variety of ways, including tables, charts, and pictures.	L 117-119, 198-200, 210-211, 219, 364-365
3. Use patterns to describe real-world phenomena.	L 33-35, 51-54, 98-101, 123-126, 198-200, 210-211, 219, 228-230
4. Explore various types of numeric and geometric patterns (repeating, growing, shrinking).	30-32, 33-35, 51-54, 98-101, 117-119, 198-200, 210-211, 219, 228-230, 239, 364-365, 467-470
5. Apply their experiences with patterns to help solve problems and explore new content.	30-32, 33-35, 51-54, 98-101, 117-119, 198-200, 210-211, 219, 228-230, 239, 364-365, 467-470
Content Standard 2: Students describe the relationships among variables, predict what will happen to one variable as another variable is changed, analyze natural variation and sources of variability, and compare patterns of change. (Variability and Change)	
<i>Objective</i>	<i>Lessons/Methodology</i>
1. Recognize change and variability when it occurs in a variety of settings.	228-230, 239
2. Recognize that change is often predictable, but variable, and that patterns emerge that help to describe the change.	228-230, 239, 316
3. Explore change, and realize that changes are frequently interdependent.	228-230, 316
4. Use tables, charts, open sentences, and hands-on models to represent change and variability.	316
5. Begin to describe and differentiate between types of relationships, especially repeating, growing, and shrinking patterns.	30-32, 33-35, 51-54, 98-101, 117-119, 198-200, 210-211, 219, 228-230, 239, 364-365, 467-470
6. Explore variability and change in a variety of contexts, investigations and problems.	30-32, 33-35, 51-54, 98-101, 117-119, 198-200, 210-211, 219, 228-230, 239, 364-365, 467-470

M=Meetings
L=Lessons

Saxon Mathematics Curriculum
Grade: 5

II. Geometry and Measurement	
Content Standard 1: Students develop spatial sense, use shapes as an analytic and descriptive tool, identify characteristics and define shapes, identify properties and describe relationships among shapes. (Shape and Shape Relationships)	
<i>Objective</i>	<i>Lessons/Methodology</i>
1. Recognize and name familiar shapes in one, two, and three dimensions, such as lines, rectangles and spheres and informally discuss the shape of a graph.	37, 79-80, 91-92, 116, 290, 463-464
2. Describe the attributes of familiar shapes.	79-80, 463-464
3. Compare, sort, and classify familiar shapes.	79-80, 463-464
4. Draw and build familiar shapes.	79-80, 463-464
5. Explore ways to combine, dissect, and transform shapes.	79-80, 463-464
6. Recognize parallel and perpendicular line segments and figures that have similarity and/or congruence.	91, 92, 226
7. Use shape, shape properties and shape relationships to describe the physical world and to solve problems.	37, 79-80, 91-92, 226, 290, 463-464
Content Standard 2: Students identify locations of objects, identify location relative to other objects, and describe the effects of transformations (e.g., sliding, flipping, turning, enlarging, reducing) on an object. (Position)	
<i>Objective</i>	<i>Lessons/Methodology</i>
1. Locate and describe objects in terms of their position, including front, back, inside, outside, right, left, over, under, next to, between and locations on the number line, on a coordinate graph and on a map.	37-39, 154-155, 387
2. Locate and describe objects in terms of their orientation, direction and relative position, including up, down, front, back, N-S-E-W, flipped, turned, translated; recognize symmetrical objects and identify their lines of symmetry.	226
3. Explore what happens to the size, shape, and position of an object after sliding, flipping, turning, enlarging, or reducing it.	226
4. Use concepts of position, direction, and orientation to describe the physical world and to solve problems.	37-39, 154-155, 387
Content Standard 3: Students compare attributes of two objects, or of one object with a standard (unit), and analyze situations to determine what measurement(s) should be made and to what level of precision. (Measurement)	
<i>Objective</i>	<i>Lessons/Methodology</i>
1. Compare attributes of objects; develop standard units of measurement; and select and use standard tools for measurement.	69, 76, 160, 163-164, 283-284, 299-300, 387-388
2. Identify the attribute to be measured and select the appropriate unit of measurement for length, mass (weight), area, perimeter, capacity, time, temperature, and money.	11-12, 69, 72-73, 85, 108, 149-151, 160-161, 163-164, 203, 268-269, 283-284, 287-288, 299-300, 302-303, 376-377, 387-388
3. Develop strategies for estimating measures and compare the estimates to the results of the measurement; decide if an estimate is a "good estimate."	426-427

M=Meetings
L=Lessons

4. Explain the meaning of measurements and recognize that the number of units it takes to measure an object is related to the size of the unit.	11-12, 69, 72-73, 76, 85, 108, 149-151, 160-161, 163-164, 203, 268-269, 283-284, 287-288, 299-300, 302-303, 376-377, 387-388
5. Explore scale drawings, models, and maps and relate them to measurement of real objects.	11-12, 69, 72-73, 76, 85, 108, 149-151, 160-161, 163-164, 203, 268-269, 283-284, 287-288, 299-300, 302-303, 376-377, 387-388
6. Apply measurement to describe the real world and to solve problems.	11-12, 69, 72-73, 76, 85, 108, 149-151, 160-161, 163-164, 203, 268-269, 283-284, 287-288, 299-300, 302-303, 376-377, 387-388
III. Data Analysis and Statistics	
Content Standard 1: Students collect and explore data, organize data into a useful form, and develop skill in representing and reading data displayed in different formats. (Collection, Organization, Presentation of Data)	
Objective	Lessons/Methodology
1. Collect and explore data through counting, measuring, and conducting surveys and experiments.	290-292, 316, 383-384, 446-447
2. Organize data using concrete objects, pictures, tallies, tables, charts, diagrams, and graphs.	15, 290-292, 316, 356, 383-384, 447-447
3. Present data using a variety of appropriate representations and explain the meaning of the data.	290-292, 316, 383-384, 446-447
4. Identify what data are needed to answer a particular question or solve a given problem, and design and implement strategies to obtain, organize, and present those data.	290-292, 316, 383-384, 446-447
Content Standard 2: Students examine data and describe characteristics of a distribution, relate data to the situation from which they arose, and use data to answer questions convincingly and persuasively. (Description and Interpretation)	
Objective	Lessons/Methodology
1. Read and explain data they have collected and organized themselves and progress to reading data from other sources.	290-292, 316, 383-384, 446-447
2. Describe the shape of the data using informal language.	290-292, 316, 383-384, 446-447
3. Draw, explain, and justify conclusions, such as trends, based on data.	290-292, 316, 383-384, 446-447
4. Raise and answer questions about the source, collection, organization, and presentation of data, as well as the conclusions drawn from the data: explore biases in the data.	290-292, 316, 383-384, 446-447
5. Formulate questions and problems and gather and interpret data to answer those questions.	290-292, 316, 383-384, 446-447
Content Standard 3: Students draw defensible inferences about unknown outcomes, make predictions, and identify the degree of confidence they have in their predictions. (Inference and Prediction)	
Objective	Lessons/Methodology
1. Make and test hypothesis.	446-447
2. Conduct surveys, samplings, and experiments to solve problems and answer questions of interest to them.	446-447
3. Formulate and communicate arguments and conclusions based on data and evaluate their arguments and those of others.	446-447
4. Make and explain predictions based on data.	446-447
5. Make predictions to answer questions and solve problems.	446-447

M=Meetings
L=Lessons

IV. Number Sense and Numeration	
Content Standard 1: Students experience counting and measuring activities to develop intuitive sense about numbers, develop understanding about properties of numbers, understand the need for and existence of different sets of numbers, and investigate properties of special numbers. (Concepts and Properties of Numbers)	
<i>Objective</i>	<i>Lessons/Methodology</i>
1. Develop an understanding of whole numbers and read, write, and count using whole numbers; investigate basic concepts of fractions and decimals.	1, 6-7, 14, 21-22, 88, 111, 138-140, 142-143, 339, 346-347, 349-351, 372-373, 393-394, 422-423, 456-457, 485-486
2. Investigate and develop an understanding of the base-10 place-value system.	11-12, 138-140, 346-347, 349-351, 372-373, 475-476
3. Develop an understanding of the properties of numbers (e.g., order) and of the properties of the special numbers 0 and 1.	18-20, 114-115, 171-182, 185-187, 192-193
4. Apply their understanding of number systems to model and solve problems.	1, 6-7, 14, 21-22, 88, 111, 138-140, 142-143, 339, 346-347, 349-351, 372-373, 393-394, 422-423, 456-457, 485-486
Content Standard 2: Students recognize that numbers are used in different ways such as counting, measuring, ordering and estimating, understand and produce multiple representations of a number, and translate among equivalent representations. (Representation and Uses of Numbers)	
<i>Objective</i>	<i>Lessons/Methodology</i>
1. Represent whole numbers, fractions and decimals using concrete, pictorial and symbolic representations.	1, 6-7, 14, 21-22, 88, 111, 138-140, 142-143, 339, 346-347, 349-351, 372-373, 393-394, 422-423, 456-457, 485-486
2. Explore and recognize different representations for the same number and explain why they are the same.	1, 6-7, 14, 21-22, 88, 111, 138-140, 142-143, 339, 346-347, 349-351, 372-373, 393-394, 422-423, 456-457, 485-486
3. Investigate ways numbers are used (e.g., counting, ordering, naming, locating, measuring).	1, 6-7, 14, 21-22, 45-46, 111, 138-140, 142-143, 475-476, 485-486
4. Develop strategies for estimating quantity and evaluate the reasonableness of their estimates.	238, 353-354, 426-427
5. Select appropriate numbers and representations in order to solve problems.	1, 6-7, 14, 21-22, 88, 111, 138-140, 142-143, 339, 346-347, 349-351, 372-373, 393-394, 422-423, 456-457, 485-486
Content Standard 3: Students investigate relationships such as equality, inequality, inverses, factors, and multiples, and represent and compare very large and very small numbers. (Number Relationships)	
<i>Objective</i>	<i>Lessons/Methodology</i>
1. Compare and order numbers using "equal," "less than," or "greater than."	45-46, 124-126
2. Use part-whole relationships to explore numbers, develop number concepts, and understand computation.	198-200, 200-201, 228-230, 239, 364-365
3. Classify numbers as even or odd and explore concepts of factors and multiples.	30-31
4. Apply their understanding of number relationships in solving problems.	30-31, 45-46, 124-126, 198-200, 210-211, 228-230, 239, 364-365
V. Numerical and Algebraic Operations and Analytical Thinking	
Content Standard 1: Students understand and use various types of operations (e.g. addition, subtraction, multiplication, division) to solve problems. (Operations and their Properties).	

M=Meetings
L=Lessons

Saxon Mathematics Curriculum
Grade: 5

<i>Objective</i>	<i>Lessons/Methodology</i>
1. Use manipulatives to model operations with numbers; develop their own methods of recording operations; and relate their models and recordings to standard symbolic expressions and algorithms.	1-5, 18-20, 27-29, 33-36, 41-44, 48-50, 51-68, 95-103, 107-130, 134-137, 157-159, 166-173, 182-184, 188-201, 205-217, 221-224, 232-237, 245-247, 252-257, 261-267, 276-279, 295-298, 309-312, 326-338, 342-345
2. Develop and apply the appropriate method of computation from among mental computation, estimation, paper-and-pencil, or calculators; explain why they are choosing a method and how they know which operations to perform in a given situation.	435-441, 449-452, 479-481
3. Explore properties of operations (e.g. Commutative and distributive properties) and give examples of how they use those properties.	18-20, 114-115, 171-172, 192-193
4. Apply operations efficiently and accurately in solving problems.	33-35, 98-101, 123-126, 198-200, 210-211, 219, 228-230, 239, 280-282, 335-336, 356-357, 364-365
Content Standard 2: Students analyze problems to determine an appropriate process for solution and use algebraic notations to model or represent problems. (Algebraic and Analytic Thinking)	
<i>Objective</i>	<i>Lessons/Methodology</i>
1. Write and solve open sentences (e.g., $+ = 5$) and write stories to fit the open sentence.	1-2, 4-5, 41-44, 95-97, 166-170
2. Explore algebraic concepts with manipulatives such as balance scales, tables of input and output, and pictorial representations of problems.	1-2, 4-5, 41-44, 95-97, 166-170
3. Find replacements for the variable(s) in open sentences.	1-2, 4-5, 41-44, 95-97, 166-170
4. Use analytic thinking to describe situations and solve problems.	1-2, 4-5, 41-44, 95-97, 166-170
VI. Probability and Discrete Mathematics	
Content Standard 1: Students develop an understanding of the notion of certainty and of probability as a measure of the degree of likelihood that can be assigned to a given event based on the knowledge available, and make critical judgements about claims that are made in probabilistic situations. (Probability)	
<i>Objective</i>	<i>Lessons/Methodology</i>
1. Explain the difference between chance and certainty and give examples to illustrate their understanding.	446-447
2. Compare events and describe them as "more likely" or "less likely" and use the language of fractions to describe simple probabilities.	446-447
3. Conduct experiments with concrete objects to explore concepts and develop an intuitive understanding of how the conditions of the experiment can affect the outcome.	446-447
4. Conduct experiments, record the outcomes, examine those outcomes to determine if they make sense, and search for explanations of the outcomes.	446-447
5. Conduct probability experiments and simulations to model and solve problems.	446-447
Content Standards 2: Students investigate practical solutions such as scheduling, routing, sequencing, networking, organizing and classifying, and analyze ideas like recurrence relations, induction, iteration, and algorithm design. (Discrete Mathematics)	

M=Meetings
L=Lessons

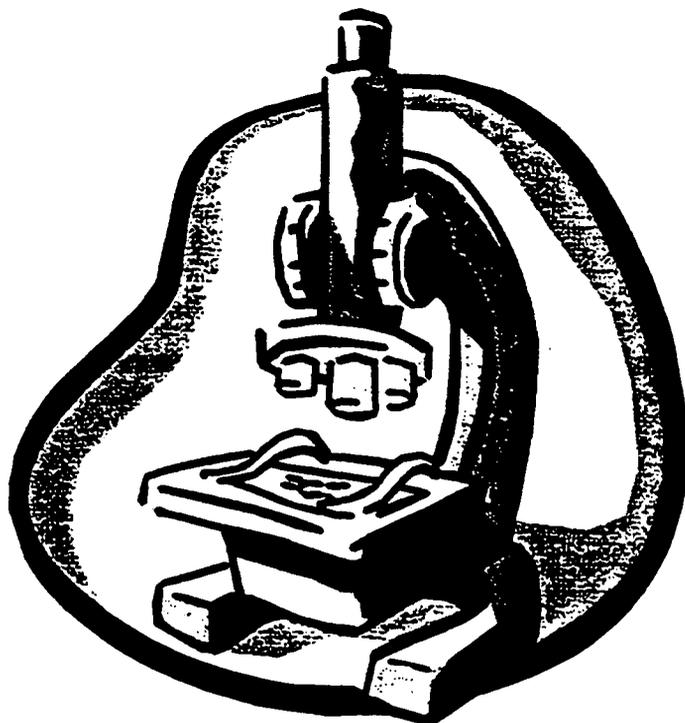
Saxon Mathematics Curriculum
Grade: 5

<i>Objective</i>	<i>Lessons/Methodology</i>
1. Use manipulatives and diagrams to explore problems involving counting and arranging objects.	1-2, 6-7, 14, 111
2. Explore sets and set relationships by sorting and classifying objects.	287-288
3. Explore situations in which they model and trace paths using figures consisting of vertices connected by edges.	79-80
4. Explore now-next patterns.	33-35, 51-54, 98-101, 123-126, 198-200, 210-211, 219, 228-230, 364-365, 467-470
	1, 6-7, 14, 21-22, 88, 111, 138-140, 142-143, 339, 346-347, 349-351, 372-373, 393-394, 422-423, 456-457, 475-476, 485-486
6. Use discrete mathematics concepts described above to model situations and solve problems; and look for whether or not there is a solution (existence problems), determine how many solutions there are (counting problems), and decide upon a best solution (optimization problems)	33-35, 51-53, 98-101, 123-126, 198-200, 210-211, 219, 228-230, 239, 280-282, 335-336, 356-357, 364-365

M=Meetings
L=Lessons

SCIENCE FIFTH GRADE

**NHA Science Philosophy
Content Standards and Objectives
Science Objective Summaries/Links
Grade Level Schedule
The Teaching of Origins**



NHA SCIENCE PHILOSOPHY

National Heritage Academies believes in excellence in science education. Our curriculum is based on:

NHAGOSE Standards (National Heritage Goals and Objectives for Science Education)

Nhagose standards are the state requirements of what all students need to know and be able to do in the subject of Science. A state standardized assessment tool is used to provide feedback on how well the objectives have been covered. Our curriculum has been carefully aligned so as to cover these objectives and skills consistently throughout all grades.

Core Knowledge (content objectives)

The Core Knowledge Sequence represents a first and ongoing attempt to state specific core knowledge that children should learn. It is designed to encourage steady academic progress as children build their knowledge from one year to the next. Core Knowledge objectives cover much of the same information as the state standards, thus, they are not listed twice. For those objectives/units that are specific to Core Knowledge, they are labeled as such and should be covered when possible. It is National Heritage Academies' goal for the Core Knowledge to account for approximately 50% of the science curriculum.

NHA teachers play significant role in the creation of our science curriculum. Besides the extensive work of our science specialist, Randy Creswell, many teachers have contributed time and effort into writing units and/or committee work where much of our information such as experiment tables were compiled.

Our teachers plan their lessons using the content objectives and lesson ideas presented in the binder. Principals will provide the materials and resources needed to accompany the plans.

*SCIENTIFICALLY LITERATE STUDENTS KNOW HOW TO... USE KNOWLEDGE...
TO ENGAGE IN ACTIVITIES... IN REAL-WORLD CONTEXTS.*

I. CONSTRUCT NEW SCIENTIFIC AND PERSONAL KNOWLEDGE	
Content Standard 1: All students will ask questions that help them learn about the world; design and conduct investigations using appropriate methodology and technology; learn from books and other sources of information; communicate their findings using appropriate technology; and reconstruct previously learned knowledge. (Constructing New Scientific Knowledge)	
Objective	Lessons/Methodology
1. Generate reasonable questions about the world based on observation.	C1
2. Develop solutions to unfamiliar problems through reasoning, observation, and/or experiment.	C2
3. Manipulate simple mechanical devices and explain how they work.	C3
4. Use simple measurement devices to make metric measurement.	C4
5. Develop strategies and skills for information gathering and problem solving.	C5
6. Construct charts and graphs and prepare summaries of observations.	C6
II. REFLECT ON THE NATURE, ADEQUACY AND CONNECTIONS ACROSS SCIENTIFIC KNOWLEDGE	
Content Standard 2: All students will analyze claims for their scientific merit and explain how scientists decide what constitutes scientific knowledge; how science is related to other ways of knowing; how science and technology affect our society; and how people of diverse cultures have contributed to and influenced developments in science. (Reflecting on Scientific Knowledge)	
Objective	Lessons/Methodology
1. Develop an awareness of the need for evidence in making decisions scientifically.	R1
2. Show how science concepts can be interpreted through creative expression such as language arts and fine arts.	R2
III. USING SCIENTIFIC KNOWLEDGE IN LIFE SCIENCE	
Content Standard 1: All students will apply an understanding of cells to the functioning of multicellular organisms; and explain how cells grow, develop, and reproduce.	
Objective	Lessons/Methodology
1. Describe cells as living systems.	LC 1
Content Standard 2: All students will use classification systems to describe groups of living things; compare and contrast differences in the life cycles of living things; investigate and explain how living things obtain and use energy; and analyze how parts of living things are adapted to carry out specific functions.	
Objective	Lessons/Methodology
1. Compare and classify familiar organisms on the basis of observable physical characteristics.	LO 1

2. Describe vertebrates in terms of observable body parts and characteristics.	LO 2
3. Describe life cycles of familiar organisms.	LO 3
4. Compare and contrast food, energy, and environmental needs of similar organisms.	LO 4
5. Explain how physical and / behavioral characteristics of organisms help them to survive in their environment.	LE 2
6. Describe functions of selected seed plant parts.	LO 5
Content Standard 3: All students will investigate and explain how characteristics of living things are passed on through generations; explain why organisms within a species are different from one another; and explain how new traits can be established by changing or manipulating genes.	
Objective	Lessons/Methodology
1. Give evidence that characteristics are passed from parents to young.	LH 1
Content Standard 4: All students will explain how scientists construct and scientifically test theories concerning the origin of life and evolution of species; compare ways that living organisms are adapted (suited) to survive and reproduce in their environments; and analyze how species changes through time.	
Objective	Lessons/Methodology
1. Explain how fossils provide evidence about the nature of ancient life.	LE 1
2. Explain how physical and / or behavioral characteristics of organisms help them to survive in their environments	LE 2
Content Standard 5: All students will explain how parts of an ecosystem are related and how they interact; explain how energy is distributed to living things in an ecosystem; investigate and explain how communities of living things change over a period of time; describe how materials cycle through an ecosystem and get reused in the environment; and analyze how humans and the environment interact.	
Objectives	Lessons/Methodology
1. Identify familiar organisms as part of a food chain or food web and describe their feeding relationships within the web.	LEC 1
2. Explain common patterns of interdependence and interrelationships of living things.	LEC 2
3. Describe the basic requirements for all living things to maintain their existence.	LEC 3
4. Describe systems that encourage growing of particular plants and animals.	LEC 4
5. Describe positive and negative effects of humans on the environment.	LEC 5

IV. USING SCIENTIFIC KNOWLEDGE IN PHYSICAL SCIENCE	
Content Standard 1: All students will measure and describe the things around us; explain what the world around us is made of; identify and describe forms of energy; and explain how electricity and magnetism interact with matter.	
Objective	Lessons/Methodology
1. Classify common objects according to observable attributes.	PME 1
2. Measure weight, dimensions, and temperature of appropriate objects and materials.	PME 2
3. Identify properties of materials that make them useful.	PME 3
4. Identify forms of energy associated with common phenomena.	PME 4
5. Describe the interaction of magnetic materials with other magnetic materials and non-magnetic materials.	PME 5
6. Describe the interaction of charged materials with other charged or uncharged materials.	PME 6
7. Describe possible electrical hazards to be avoided at home and at school.	PME 7
Content Standard 2: All students will investigate, describe and analyze ways in which matter changes; describe how living things and human technology change matter and transform energy; explain how visible changes in matter are related to atoms and molecules; and how changes in matter are related to changes in energy.	
Objective	Lessons/Methodology
1. Describe common physical changes in matter (size, shape, melting, freezing, dissolving).	PCM 1
2. Prepare mixtures and separate them into their component parts.	PMC 2
3. Construct simple objects that fulfill a technological purpose.	PMC 3
Content Standard 3: All students will describe how things around us move and explain why things move as they do; demonstrate and explain how we control the motions of objects; and relate motion to energy and energy conversions.	
Objects	Lessons/Methodology
1. Describe or compare motions of common objects in terms of speed and direction.	PMO 1
2. Describe how forces (pushes or pulls) speed up, slow down, stop, or change the direction of a moving object.	PMO 2
3. Use simple machines to make work easier.	PMO 3
Content Standard 4: All students will describe sounds and sound waves; explain shadows, color, and other light phenomena; measure and describe vibrations and waves; and explain how waves and vibrations transfer energy.	
Objectives	Lessons/Methodology
1. Describe sound in terms of its properties.	PWV 1
2. Explain how sounds are made.	PWV 2
3. Describe light from a source in terms of its properties.	PWV 3

4. Explain how light illuminates objects.	PWV 4
5. Explain how shadows are made.	PWV 5
V. USING SCIENTIFIC KNOWLEDGE IN EARTH SCIENCE	
Content Standard 1: The Geosphere. All students will describe the earth's surface; describe and explain how the earth's features change over time; and analyze effects of technology on the earth's surface and resources.	
Objective	Lessons/Methodology
1. Describe major features of the earth's surface.	EG 1
2. Recognize and describe different types of earth materials.	EG 2
3. Explain how rocks and fossils are used to understand the history of the earth.	EG 3
4. Describe the natural changes in the earth's history.	EG 4
5. Describe uses of materials taken from the earth.	EG 5
6. Demonstrate means to recycle manufactured materials and a disposition towards recycling.	EG 6
Content Standard 2: The Hydrosphere. All students will demonstrate where water is found on-earth; describe the characteristics of water and how water moves; and analyze the interaction of human activities with the hydrosphere.	
Objective	Lessons/Methodology
1. Describe how water exists on the earth in three states.	EH 1
2. Describe various forms that water takes on the earth's surface and conditions under which they could exist.	EH 2
3. Trace the path that rain water travels after it falls.	EH 3
4. Describe how rainwater in Michigan reaches the ocean.	EH 4
5. Identify sources of drinking water.	EH 5
6. Identify uses for water.	EH 6
7. Describe the origins of pollution in the hydrosphere.	EH 7
Content Standard 3: The atmosphere and weather. All students will investigate and describe what makes up weather and how it changes from day to day, from season to season and over long periods of time; explain what causes different kinds of weather; and analyze the relationships between human activities and the atmosphere.	
Objective	Lessons/Methodology
1. Describe the atmosphere.	EAW 1
2. Describe weather conditions and climate.	EAW 2
3. Describe seasonal changes in weather.	EAW 3
4. Explain appropriate safety precautions during severe weather.	EAW 4

Content Standard 4: The Solar System, Galaxy, and Universe. All students will compare and contrast our planet and sun to other planets and star systems; describe and explain how objects in the solar system move; explain scientific theories as to the origin of the solar system; and explain how we learn about the universe.

Objective	Lesson/Methodology
1. Describe the sun, moon, and earth.	ES 1
2. Describe the motions of the earth and moon around the sun.	ES 2

Science Objective Summaries and their Links:

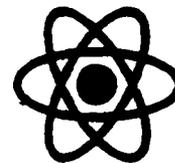
EAW	Earth Science	Atmosphere and Weather
EG	Earth Science	Geosphere
EH	Earth Science	Hydrosphere
ES	Earth Science	Space



LC	Life Science	Cells
LE	Life Science	Evolution
LEC	Life Science	Ecosystems
LH	Life Science	Heredity
LO	Life Science	Living Organisms



PCM	Physical Science	Changes in Matter
PME	Physical Science	Matter and Energy
PMO	Physical Science	Motion of Objects
PWV	Physical Science	Waves (Sound, Light, Pendulae)



RECOMMENDED SCIENCE SCHEDULE

GRADE FIVE

SEP

Sep 4	PCM 3	Scientific Method and small projects
Sep 10	LO Review	Focus on LO 5
Sep 17	LEC Review	Focus on LEC 1
Sep 24	LC and LH Review	

OCT

Oct 1	PME 1-4 Review	Focus on PME 4
Oct 8	PME 5-7 Review	Focus on PME 6
Oct 15	PCM Review	Focus on PCM 1/ PCM 4/ PCM 8
Oct 22	PMO Review	Focus on Newton's First Law
Oct 29	PWV 1 and 2 Review	Sound

NOV

Nov 5		Guided investigation on Matter, Energy, or motion
Nov 12	PWV 3, 4, and 5 Review	Light
Nov 19		GUIDED INVESTIGATION: On sound or light
Nov 26	EG Review	Focus on EG2

DEC

Dec 3	EH Review	Focus on EH2
Dec 10	EAW Review	Focus on EAW 2
Dec 17		GUIDED Investigation: Based on MEAP investigation

JAN

Jan 3	ES Review	Focus on ES 2
Jan 7		Reading and writing in science
Jan 14		INVESTIGATION: MEAP ASSIGNED
Jan 21		5th Grade Science MEAP
Jan 28	ES 3	Life Support on planets

FEB

Feb 4	ES 4	Motions of celestial objects
Feb 11		Science reading and Writing for Content
Feb 18	ES 5	Common observations: Daylength, Eclipses, Northern Lights
Feb 25	ES 6	Formation of Solar System

MAR

Mar 4	EH 5	Forms of water on earth
Mar 11	EH 5 and EH 6	Ground Water
Mar 18	EH 6	River Water
Mar 25		Report on EH 7, or EAW 8, or EG 11

APRIL

April 8	EG 7	Map Practice
April 15	EG 8	Formation of rocks and the rock cycle
April 22	EG 8	Formation of rocks and the rock cycle
April 29	EG 9	Fossils and Geological time

MAY

May 6	EG 10	Erosion and soil formation
May 13	EAW 6	Weather patterns
May 20	EAW 6	Weather Measurements
May 31	EAW 7	Water cycle and weather patterns

JUNE

June 5		Science Project: Build Weather Measuring Devices
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The Teaching of Origins National Heritage Academies

National Heritage Academies recognizes that the teaching of origins is a topic that generates passionate debate because it touches deeply at the core of many people's strongly held beliefs. In no way does NHA seek to undermine the beliefs held by each family unit within our schools. Rather, we support the parents' rights to instruct their children on these topics.

At the same time, National Heritage Academies is required to teach according to state standards. NHA is committed to teaching the state's educational objectives in each state in which we are granted a charter. To that end, NHA has a system of objectives called NHAGOSE Standards (National Heritage Academies Goals of Science Education) that are based on Michigan state standards and have been expanded to include those of other states as well as the Core Knowledge Sequence. These NHAGOSE Standards have been approved state by state with our charters as meeting or exceeding state standards.

In teaching science at the elementary and middle school levels, NHA is committed to four teaching strategies. These are:

1. teaching basic facts;
2. teaching science skills (making graphs and tables, measuring, etc.);
3. teaching science models and their limitations;
4. teaching thinking skills to combine all the above into a coherent view of the universe.

The Core Knowledge Sequence focuses on points one and two above. Different state standards are blends of the four areas. Our NHAGOSE Standards have been written to implement these ideas in a way that covers all domains of science in age-appropriate ways.

Objective Standards

The attached appendices are a complete description of the three objectives related to evolution. The summarized objectives are:

- LE 1 - Explain how fossils provide evidence about the nature of ancient life.
- LE 2 - Explain how physical and/or behavioral characteristics of organisms help them to survive in their environments.
- LE 3 - Describe how biologists might trace possible evolutionary relationships among present and past life forms.

Note: LE 1 and LE 2 are elementary objectives and LE 3 is a middle school objective.

Philosophies, Ideology and Religion

It is required that all National Heritage Academies' schools teach science. The teaching of science necessitates teaching to objectives. In the process of teaching these objectives, we:

- teach basic facts;
- teach science skills (make graphs and tables, measurement...);
- teach science models and their limitations;
- teach thinking skills to combine all the above into a coherent view of the universe.

We do not teach any particular philosophy, ideology and/or religion that are not stated in our objectives.

We do not teach ideology or naturalistic religion. To the extent that evolution is concerned with fossils (and deductions from them), adaptations of plants and animals to environments, we teach these as testable, observable domains in which we legitimately practice scientific inquiry. In LE 3 we recognize evolution to be a working tool of the life sciences, which all students, regardless of their belief structures, should understand. Note that this objective does not insist that all biologists are evolutionists, mandate that evolutionary relationships are facts and laws like Newtonian Mechanics, or require that anyone believe the evolutionary relationships. The objective does require that we teach all students to understand how some biologists have reached certain conclusions.

Each of the listed objectives is tied in our curriculum to a related body of knowledge. LE 1 is tied to geology and is integrated with geology units. LE 2 is tied to the study of living organisms, their character and diversity. LE 3 is taught with units on cell biology and heredity. The result is that we are teaching science, of which these objectives are a part.

We do not teach creationism or scientific creationism. We do not have any labeled objectives for creationism. There are matters on which some scientific creationists will focus such as erosion (dealt with in EG 4, EG 10, EH 2 and EH 6) or density (PME 8). These topics are taught, but as issues of science, not as issues of creationism.

In all of our teaching, we are helping students both develop and critique models of the universe, recognizing that models have value in helping us to think, plan, and make conclusions. We also seek to help students recognize that models are simplifications of reality and are thus always subject to the limitations of our finite minds.