

# **Northbridge School District**

## **Northbridge Middle School**

### **Curriculum Guide**

**2008-2009**



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Dear Parent(s)/Guardian,

The Northbridge Middle School staff and School Council are pleased to provide you with this curriculum guide. We have worked to create a document that would provide you with the most accurate curriculum information. While certain elements of the curricula may change, foundation concepts and principles remain the same. We believe that as your child progresses through the grades at the Northbridge Middle School, you will find this guide to be helpful. We hope to continue to work together to support success for all students.

The idea for this guide came from our friends and colleagues at the Balmer School. As they introduced their curriculum guide for grades 2-4, we felt the students and parents at the middle school would benefit from a similar document. We hope that as you review our guide for information, it will clarify any questions that you may have regarding the curriculum.

The information found in our guide is based on the Massachusetts State Curriculum Frameworks. Teachers, administrators, and other subject area professionals have written the frameworks. They serve as a blueprint to school districts in planning curriculum activities. To view all state frameworks, you may access the Massachusetts Department of Education at [www.doe.mass.edu](http://www.doe.mass.edu).

Our goal is that you find the Northbridge Middle School Curriculum Guide an additional way to help assist your child. As always, we invite your continued support in ensuring success for all students.

Sincerely,



Michael P. Gauthier  
Principal  
[mpgauthier@nps.org](mailto:mpgauthier@nps.org)

# FIFTH GRADE SKILLS

## **I. LANGUAGE ARTS – GRADE 5**

### **A. Vocabulary**

1. Definitions and parts of speech
2. Synonyms and antonyms
3. Homophones, homographs and homonyms
4. Context clues to decipher new vocabulary
5. Formal and informal English
6. Greek and Latin roots, suffixes and prefixes
7. Word of the week
8. Spelling lists
9. Dictionary, thesaurus, encyclopedia and textbook skills
10. Table of contents, glossary, index, main headings, bold-face print, captions

### **B. Literature**

1. Genre (Biography, Historical Fiction, Fiction, Nonfiction, etc.)
2. Types of writing and reading (stories, poems, plays, essays and novels)
3. Literacy elements (plot, climax, resolution, problem/solution, characters, setting, main ideas, details, cause and effect, sequencing, comparing and contrasting, predictions, connections, conclusions, inferences, author's purpose, fact and opinion; summarizing, questioning, visualization)
4. Poetry elements (rhyme scheme and rhythm)
5. Literacy terms (alliteration, personification, simile, metaphor, onomatopoeia, idioms, hyperbole)
6. Novel themes (friendship, survival)

### **C. Composition**

1. Parts of speech (noun, pronoun, verb, adverb, adjective, adverb, conjunction and preposition)
2. Singular and plural words
3. Verb usage (3 basic tenses, subject and verb agreement)
4. Types of sentences (declarative, interrogative, imperative, exclamatory)
5. Sentence structure (sentence vs. fragment, simple and compound sentences and complete sentences)
6. Mechanics (apostrophes, quotation marks, commas, capitals, punctuation marks, paragraph indentations)
7. Five paragraph essay (organize paragraphs, topic and concluding sentences)
8. Graphic organizers
9. Writing samples (stories, persuasive, descriptive, letters, narrative, expository)
10. Research – Interest Fair project with bibliography

TEXT: *Don't Forget To Fly* – MacMillan/ McGraw Hill

CORE NOVELS: *Number the Stars*, *Bridge to Terabithias*, *Hatchet* or *Island of the Blue Dolphins*

OTHER NOVELS: *Holes*, *Because of Winn-Dixie*, *Sadako and the Thousand Paper Cranes*, *Indian in the Cupboard*, etc.

MEDIA: Website- Oregon Elementary School Library (Bibliography), Timeliner, Novel websites/webquests

## **II. MATHEMATICS – GRADE 5**

### **A. Data Analysis, Statistics, Probability**

1. Collect, organize, and interpret data
2. Construct graphs: circle, bar, double bar, stem-and-leaf, line, pictograph, pie charts
3. Construct tree diagrams to identify combinations
4. Predict possible outcomes
5. Identify likely and unlikely outcomes

### **B. Measurement**

1. Display an understanding by using standard and non-standard units of measure
2. Calculate perimeter, area and volume
3. Compute elapsed time
4. Convert English units of measurement
5. Convert metric units of measurement
6. Perform all operations and conversions using monetary values

### **C. Geometry**

1. Identify and classify two and three dimensional shapes
2. List all attributes of two and three dimensional shapes
3. Identify similar and congruent figures
4. Construct acute, obtuse, and right angles using protractors
5. Label intersecting, parallel, and perpendicular lines
6. Perform and identify rotations, revolutions, and reflections

### **D. Pattern Relations and Algebra**

1. Demonstrate an understanding by using commutative, distributive, and associative properties
2. Recognize multiplication properties of one and zero
3. Solve symbolic arithmetic and geometric patterns

### **E. Number Sense**

1. Master multiplication and division facts through  $12 \times 12$
2. Read and write numbers with place values from billions to thousandths
3. Order and compare whole numbers, fractions, decimals
4. List factors, multiples, and divisibility rules
5. Identify prime and composite numbers
6. Multiply numbers between hundreds and thousandths by a two-digit factor
7. Divide numbers between hundred-thousandths and by one and two digit divisors with and without remainders (in form of both decimals and fractions)
8. Use appropriate operations to solve problems
9. On-going MCAS practice and review using open-response questions and various problem solving activities

TEXT: Scott Foresman – Addison Wesley *Mathematics*

## **III. SOCIAL STUDIES – GRADE 5**

### **A. Map Skills**

1. Continents and oceans
2. Focus on New England states
3. Identify all states and capitals
4. Regions of the U.S.
5. Types of maps: Latitude and Longitude, hemispheres

## **B. American Foundations**

1. Pledge of Allegiance
2. Symbols of United States
3. Constitution (democracy, republic, economy)

## **C. Native Americans**

1. 5 major groups of North America
2. Mayas, Aztecs, Inca
3. Tribes, customs, shelter, food, environment
4. Native American legends

## **D. Explorers**

1. Major European explorations and motives
2. Christopher Columbus (voyages & purpose)
3. Spanish conquistadors
4. Early European settlements
5. Louisiana Purchase of 1803
6. Lewis & Clark expedition

## **E. Colonial Times**

1. Early European settlements (Jamestown, Plymouth)
2. Pilgrims and Puritans
3. 13 colonies (location, founders, geography, economy)
4. New England, Middle, Southern colonies
5. African slave trade
6. Life in colonial times

## **F. Revolutionary War**

1. Events leading to war
2. Declaration of Independence
3. The Revolutionary War (events and battles)
4. Constitution of the United States
5. Important leaders and achievements during Revolutionary War

TEXT: *The United States* by Scott Foresman or *Our Country* by Silver Burdett and Ginn

## **IV. SCIENCE – GRADE 5**

### **A. Introduction to Science**

1. Lab safety
2. Scientific method
3. What science is

### **B. Characteristics of Living Things (Life Science)**

1. Classifying living things
2. Cells
3. Kingdoms of life
4. Plant structures and functions (roots, stems, and leaves)
5. Plant responses and adaptations
6. Animal diversity (traits, diversity, and adaptations)

### **C. Living Things and their Environments (Life Science)**

1. Interactions of living things
2. Interactions in an ecosystem
3. Ecosystems
4. How populations survive

5. Cycles of life (water, nitrogen, and carbon cycles)
- D. Earth and it's Resources (Earth Science)**
1. Landforms
  2. Earth's changing crust
  3. Minerals of earth's crust
  4. Earth's rocks and soil
  5. Air, water and energy
- E. Astronomy, Weather, and Climate (Earth Science)**
1. Solar system (Sun, the planets, the moon, and solar and lunar eclipses)
  2. Astronomy
  3. Weather
  4. Weather patterns and climate
- F. Properties of Matter and Energy (Physical Science)**
1. Properties and structure of matter
  2. Solids, liquids, and gases
  3. Forms of matter and energy
  4. Simple machines (6 types of simple machines, work, force)
- G. Motion and Energy (Physical Science)**
1. Newton's Laws of Motion
  2. Sound energy
  3. Light energy

Ongoing MCAS practice and review using both multiple choice and open response questions

TEXT: *Science McMillan McGraw-Hill*  
by Glencoe/McGraw-Hill

## SIXTH GRADE SKILLS

### **I. LANGUAGE ARTS – GRADE 6**

#### **A. Vocabulary**

1. Vocabulary (definitions, synonyms, antonyms, parts of speech)
2. Contextual clues to decipher new vocabulary
3. Formal and informal English (jargon, colloquial/ dialectic speech)
4. Prefixes, suffixes, Greek and Latin roots
5. Using sources – dictionary, thesaurus, encyclopedia, etc. (library skills are taught and reviewed with Mrs. Murray in the Media Center)
6. MCAS practice (varied topics – multiple choice and short answer)
7. Oral presentations and oral recitations
8. Whole class and small group discussions

VOCABULARY TEXT: *Sadlier – Oxford Vocabulary Workshop Level "A"*

#### **B. Literature**

1. Genre (short story, fable, myth, novel, poem, play, essays, narrative)
2. Focus Areas – Aesop's Fables, Tuck Everlasting novel in anthology, and *Phantom Tollbooth* play in anthology.
3. Literary terms (plot, character, conflict, setting, theme, tone)

4. Poetry Elements (alliteration, onomatopoeia, personification, rhyme, rhythm, simile)
5. Literary devices (figurative language, idiomatic expressions, proverb/moral, sensory details.)
6. Analysis methods (cause & effect, compare & contrast, fact & opinion, making inferences, predicting and drawing conclusions, sequence)
7. Projects assigned with various works – utilizing a variety of learning styles
8. Oral recitations (using assigned poems)
9. Pleasure reading (permanent nightly assignment)

### **C. Composition**

1. Parts of speech (noun, pronoun, adjective, verb, adverb, preposition, conjunction, interjections)
2. Verb usage (3 basic tenses and introduce perfect tenses with helping verbs, subject and verb agreement, irregular verbs)
3. Paragraph development (topic sentence, transitional words, supporting details, complete and varied sentence structure)
4. Punctuation (apostrophe, capitalization, comma, end marks, and quotation marks)
5. Types of writing (character sketches, descriptive stories, diary entries, directions, essays, fables, letters, obituaries, persuasive arguments, recipes, research reports)
6. Graphic organizers (charts, flash cards, lists, graphs, outlines, Venn diagram, web, “KWL”)

TEXT: *Prentice Hall – Copper – Grade 6*

CORE NOVELS: *Abel’s Island, Mrs. Frisby & the Rats of NIMH, My Side of the Mountain, The View From Saturday*

MEDIA: Power Point (alliterative alphabet book), various websites, webquests, hot lists relating to projects, easy bib.com – work cited information, video productions as projects presentations, videos in conjunction with some of the class readings, books on tape, audio (cassettes and CD) with writing activities.

## **II. MATHEMATICS – GRADE 6**

### **A. Number Theory**

1. Demonstrate an understanding of exponents, especially powers of 10.
2. Understanding place value to billions and thousandths
3. Demonstrate an understanding of fractions; where they are located on the number line; as part of a whole
4. Knowledge of equivalent fractions, mixed numbers, decimals and percent
5. Compare and order integers, positive fractions, decimals and percents
6. Demonstrate understanding of prime and composite numbers, prime factorization, greatest common factor, least common multiple and divisibility rules for 2, 3, 4, 5, 6, 9, and 10
7. Apply Order of Operations for expressions involving adding, subtracting, multiplying and dividing
8. Accurately and efficiently add, subtract, multiply and divide with double-digit divisors
9. Accurately and efficiently add, subtract, multiply and divide positive fractions and mixed numbers
10. Estimating with whole numbers, decimals and fractions.
11. Patterns, Relations and Algebra
12. Analyze and find rules for extending patterns



13. Replace variables with given values and evaluate/simplify
14. Represent mathematical relationships using tables, graphs, (for example, input-output table)
15. Introduction to solving linear equations
16. Produce and interpret graphs that represent the relationship between two variables in everyday situations

### **B. Geometry**

1. Identify polygons by their properties (3-sided to 8-sided figures)
2. Identify 3-dimensional shapes based on their properties
3. Identify relationships among points, lines and planes
4. Predict, describe and perform transformations on 2-dimensional shapes (translations, rotation, reflection)
5. Identify types of symmetry including line and rotational
6. Identify congruency of two shapes

### **C. Measurement**

1. Apply concepts of perimeter and area to the solution of problems
2. Identify, measure, describe, and classify various angles, triangles, and quadrilaterals
3. Find area of triangles, parallelograms, rectangles and irregular figures
4. Identify, measure and describe circles and the relationship of radius, diameter, circumference, and area
5. Find volumes and surface areas of rectangular prisms

### **D. Data Analysis, Statistics and Probability**

1. Describe and compare data sets using mean, media, mode and range
2. Construct and interpret stem-and-leaf plots, and circle graphs
3. Use tree diagrams to represent possible or actual outcomes of trials
4. Predict the probability of outcomes of simple experiments and test the predictions.
5. Use appropriate ratios between 0 and 1 to represent the probability of the outcome and associate the probability with the likelihood of the event

TEXT: Scott Foresman Addison-Wesley: *Mathematics*, Dale Seymour Publications: *Connected Math Program*

## **III. SOCIAL STUDIES (GEOGRAPHY) – GRADE 6**

### **A. Review of Map Skills**

1. Graphs and charts
2. Use of demographic terms

### **B. Regions/Continents of the World**

1. South America
2. Europe
3. Russia and the Independent Republics
4. South West Asia (Middle East)
5. South Asia
6. South East Asia and Oceania
7. Africa

a) Topics for regions listed above include:

1. Land/Geography
2. Climate
3. People

4. Economy
5. History

**C. Economics**

1. Currencies
2. Supply and demand
3. Market economy
4. Command economy
5. Standard of living

**D. World Religions (time permitting)**

1. Christianity
2. Judaism
3. Islam
4. Hinduism
5. Buddhism

TEXT: *Geography: World and It's People* Glencoe McGraw Hill

**IV. EARTH SCIENCE – GRADE 6**

**A. Introduction to Science**

1. The World of Earth Science
2. Maps as Models of the Earth

**B. Earth's Resources**

1. Minerals of the Earth's Crust
2. Rocks: Mineral Mixtures
3. Energy Resources
4. The Rock and Fossil Record

**C. The Restless Earth**

1. Plate Tectonics
2. Earthquakes
3. Volcanoes

**D. Reshaping the Land**

1. Weathering and Soil Formation
2. The Flow of Fresh Water
3. Agents of Erosion and Deposition

**E. Oceanography**

1. Exploring the Oceans
2. The Movement of Ocean Water

**F. Weather and Climate**

1. The Atmosphere
2. Understanding Weather
3. Climate

**G. Astronomy**

1. Studying Space
2. Stars, Galaxies, and the Universe
3. Formation of the Solar System
4. A Family of Planets
5. Exploring Space

TEXT: *Earth Science: Holt Science & Technology*

## **SEVENTH GRADE SKILLS**

### **I. LANGUAGE ARTS – GRADE 7**

#### **A. Vocabulary**

1. Vocabulary (definitions, synonyms, antonyms, parts of speech)
2. Contextual clues to decipher new vocabulary
3. Formal and informal English (jargon, colloquial/ dialectic speech)
4. Spelling weekly
5. Vocabulary Workshop
6. Oral presentations
7. Oral discussions

VOCABULARY TEXT: *Sadlier –Oxford Vocabulary Workshop Level “B”*

#### **B. Literature**

1. Genre (nonfiction – essays, biographies, autobiographies, fiction- mystery, fantasy, science fiction, drama, Greek myths, legends, ballads)
2. Literary terms (plot, character, conflict, setting, theme, tone, symbol, suspense, point of view, irony, moral, motive, sensory, details dialect, narrative)
3. Poetry elements ( alliteration, onomatopoeia, personification, theme, rhythm, simile, metaphor, hyperbole)

#### **C. Composition (includes grammar & research)**

1. Parts of speech (noun, pronoun, adjective, verb, adverb, preposition, conjunction, interjection)
2. Verb usage (3 basic tenses & introduce perfect tenses with helping verbs, subject & verb agreement, irregular verbs)
3. Capitalization
4. Punctuation
5. Paragraphing
6. Supporting Details
7. Introduction & Conclusion
8. Organization of ideas
9. Revising & editing
10. Descriptive essays (MCAS practice)
11. Children’s books

TEXT: *Prentice Hall Literature*

CORE NOVELS: Outsiders, A Year Down Yonder, Things Not Seen, Walk Two Moons

MEDIA: Scripts – Videotaping, tape recording

### **II. MATHEMATICS – GRADE 7** (Algebra I for those student who qualify/IOWA Aptitude Test administered to grade 6 students in the Spring) \*See Grade 8 Algebra I

#### **A. Number Sense and Operations**

1. Compare, order, and estimate integers, fractions, mixed numbers, decimals, and percents
2. Work with ratios and proportions to solve problems
3. Use unit rates and rates of change

4. Write numbers using scientific notation
5. Work with prime numbers and use prime factorization to solve problems
6. Use absolute values of numbers on number lines and in calculations
7. Work with exponents and square roots/ work with cube roots
8. Use associative, commutative, and distributive properties to solve problems, use identity for multiplication and zero property of addition
9. Use relationships to solve problems
10. Compute/ Estimate fractions, integers, decimals, percent
11. Know when to use exact or estimated answers when solving problems
12. Know which operation ( add, subtract, multiply, divide) to use when solving problems

#### **B. Geometry**

1. Use formula  $(S-2)180$  to find relationship between number of sides and sums of interior angles of polygons
2. Show congruence and similarity between geometric figures
3. Work with angles formed by parallel lines cut by transversals
4. Use the Pythagorean theorem to solve problems
5. Use rulers and protractors to draw geometric figures
6. Identify three-dimensional figures

#### **C. Measurement**

1. Convert and use appropriate units of measurement
2. Use formulas to find areas and perimeters and circumferences (rectangles, triangles, parallelograms, trapezoids, circles)
3. Use volume formulas for prisms, cylinders, pyramids, cones

#### **D. Patterns, Relations and Algebra**

1. Show and analyze patterns with tables and graphs
2. Evaluate algebraic expressions
3. Simplify algebraic expressions
4. Work with variables within an equation
5. Set up and solve linear equations, graph linear equations
6. Solve proportions algebraically

TEXT: *Pre-Algebra McDougal/Littell*

### **III. SOCIAL STUDIES (WORLD HISTORY) – GRADE 7**

#### **A. Geography & History**

1. How the five themes of geography help explain what a place is like and why
2. How landforms, waterways, climate and natural resources have shaped history
3. How legends have been important to the study of history
4. How archaeology helped scientists learn about ancient civilizations

#### **B. Prehistoric People**

1. How tools, language, clothing and the discovery of fire helped early people advance
2. What Neanderthals and Cro-Magnon were like
3. How people changed from food gatherers to food producers
4. Why specialization, government and religion were important in Neolithic societies

#### **C. Mesopotamia**

1. How religion, family life and government influenced the civilization of Sumer
2. Why Hammurabi and his reforms were important
3. How the development of Mesopotamia contributed to other civilizations

#### **D. Egypt**

1. Why the Nile River was so important to the growth of Egyptian civilization
2. How Pharaohs, pyramids and religious beliefs influenced the Old Kingdom of Egypt
3. What happened during Egypt's Middle Kingdom
4. Why Egyptian civilization grew and then declined during the New Kingdom
5. What the Egyptians contributed to the other civilizations

#### **E. Eastern River Valleys**

1. How the Indus River Valley civilization developed
2. What has been learned from the ruins of Harappa and Mohenjo-daro
3. How religion influenced the Shang Dynasty
4. Why the Shang Dynasty declined

#### **F. The Phoenicians & the Hebrews**

1. How trade helped the Phoenicians and Hebrews build their civilizations
2. What important cultural contributions were made by the Phoenicians and the Hebrews
3. What religious beliefs were held by Hebrews

#### **G. Military Empires**

1. How the Assyrians established and maintained an empire in Mesopotamia
2. What was the appearance of the Chaldean City of Babylon
3. How the Persians were able to rule an empire that stretched from Egypt to India

#### **H. Beginnings of Greece**

1. What life was like for the Minoans
2. How geography influenced the early peoples who lived on the Crete and Balkan Peninsula
3. What life was like for the Mycenaeans
4. How the "Dark Age" affected the Aegean world

#### **I. The City States**

1. Why the polis was the geographic and political center of Greek Life
2. What life was like in the city-states of Sparta and Athens
3. How the Persian Wars affected Greece
4. How Athens controlled other city-states
5. Why the Greek city-states declined

#### **J. Cultural Contributions**

1. How the Greeks honored their gods and goddesses
2. What contributions in athletics and the arts were made during the "Golden Age" of Greek culture
3. How Socrates, Plato, Aristotle and other Greek thinkers influenced the development of Western civilization

#### **K. The Hellenistic Period**

1. How the spread of Greek culture influenced people from Gibraltar to India
2. How Philip II of Macedonia gained control of Greece
3. How Alexander attempted to bring unity to his empire
4. How Alexander's empire changed after his death

#### **L. Beginnings of Rome**

1. How Rome was founded
2. What daily life was like for the Etruscans
3. What religious beliefs were held by the Etruscans
4. How the Etruscans contributed to Roman Civilization

## **M. The Roman Republic**

1. How the government of the Roman Republic was organized
2. How the Roman Republic was able to expand and protect its territory
3. How the effects of conquest changed the Roman economy and government
4. How reformers and generals attempted to save the Roman Republic

## **N. The Roman Empire**

1. How Augustus ruled the Roman Empire
2. What happened to trade and law during the Pax Romana
3. What daily life was like during the Pax Romana
4. Why the Roman Empire declined
5. What attempts were made to save the empire from collapse

## **O. Christianity**

1. How Jesus' life and teachings formed the basis of Christianity
2. How Christianity spread throughout the Roman Empire
3. How the early Christian church was organized
4. What relationship existed between Christianity and Roman society before and after the time of Constantine I
5. What life was like for early monks and nuns

TEXT: *Glencoe McGraw-Hill Human Heritage*

## **IV. LIFE SCIENCE – GRADE 7**

### **A. The Study of Living Things**

1. The World of Live Science
2. It's Alive!! Or Is It?

### **B. Cells**

1. Cells: The Basic Units of Life
2. The Cell in Action

### **C. Heredity, Evolution, and Classification**

1. Heredity
2. Genes and DNA
3. The Evolution of Living Things
4. The History of Life on Earth
5. Classification

### **D. Simple Organisms, Fungi, and Plants**

1. Bacteria and Viruses
2. Protists and Fungi
3. Introduction to Plants
4. Plant Processes

### **E. Animals**

1. Animals and Behavior
2. Invertebrates
3. Fishes, Amphibians, and Reptiles
4. Birds and Mammals

### **F. Ecology**

1. Interactions of Living Things
2. Cycles in Nature
3. The Earth's Ecosystems
4. Environmental Problems and Solutions

## **G. Human Body Systems**

1. Body Organization and Structure
2. Circulation and Respiration
3. The Digestive and Urinary Systems
4. Communication and Control
5. Reproduction and Development

## **H. Human Health**

1. Body Defenses and Disease
2. Staying Healthy

TEXT: *Life Science*: Holt Science & Technology

# **EIGHTH GRADE SKILLS**

## **I. LANGUAGE ARTS – GRADE 8**

### **A. Vocabulary**

1. Vocabulary (definitions, synonyms, antonyms, parts of speech)
2. Contextual clues to decipher new vocabulary
3. Formal & informal English (jargon, colloquial/ dialectic speech)
4. Discussions – informal & formal, Socratic & literature articles, other strategy based activities
5. Questioning, listening, and contributing
6. Oral presentations of expository, persuasive, dramatic, and poetic materials
7. Students will acquire new vocabulary and use it correctly in reading, writing and speaking
8. Students will analyze standard English grammar and usage, and recognize how its vocabulary has developed and been influenced by other languages and cultures

### **B. Literature**

1. Genre (short story, novel, poem, play, essays, narrative)
2. Literary terms (plot, character, conflict, theme, tone)
3. Poetry elements (alliteration, personification, rhyme, rhythm, simile)
4. Developing strategies for understanding text, questioning, rereading, activating prior knowledge, making connections, visualizing, inferring, determining importance, and synthesizing

### **C. Composition (includes grammar & research)**

1. Parts of speech ( pronouns, nouns, verbs, adjectives, adverbs, conjunctions, propositions)
2. Verb usage (tenses, subject/ verb agreement, irregular verbs)
3. Punctuation – commas, colons, semi –colons, quotations, capitalization
4. Citation – MLA – Modern Language Association
5. Writing Process
  - a) Pre-write – generate ideas
  - b) Draft – graphic organizers (list, web, outline)
  - c) First Copy – rough draft
  - d) Confer – teacher and peers
  - e) Revise – take 2<sup>nd</sup> look
  - f) Edit – make changes and prepare for publishing
  - g) Publish – submit finished produce

TEXT: *Prentice Hall Anthology – Cooper, Facing History & Ourselves Holocaust & Human Behavior*

CORE NOVELS: Out of the Dust, Witness, Call of the Wild, The Giver, Lyddie, Nothing But Truth, Restless Spirit: The Life and Work of Dorothea Lange, Nightjohn, The Pushcart War, Fredrick, Seedfolks, and Tuesdays with Morie

## **I. MATHEMATICS**

### **PRE-ALGEBRA**

#### **A. Number Sense & Operations**

1. Compare, order, and estimate integers, fractions, decimals
2. Operations using rational and irrational numbers
3. Scientific notation
4. Prime factorization and absolute value
5. Inverse operations
6. Select applicable operations to solve problems
7. Greatest common factor and least common multiple
8. Perfect squares & square roots
9. Solving and estimating percents
10. Percent of increase and decrease

#### **B. Geometry**

1. Classify geometric figures
2. Identify, measure, & construct angles
3. Parallel & perpendicular lines
4. Pythagorean theorem
5. Identify alternate interior and exterior angles, vertical, and corresponding angles when parallel lines are cut by a transversal
6. Determine the sum of interior angles of a polygon using  $S=(n-2)180$
7. Find perimeter and area of polygons
8. Find area and circumference of circles
9. Determine surface area of prisms, cylinders, pyramids, and cones
10. Volume of prisms, cylinders, pyramids, and cones
11. Recognize and draw 3-dimensional figures in 2-dimensional representations (nets)
12. Identify 3-dimensional figures
13. Transformations, tessellation, reflections and rotations
14. Use straight edge, compass and protractors, to construct geometric figures

#### **C. Measurement**

1. Conversion
2. Formulas to convert from one system to another
3. Ratio and proportion for problem solving
4. Use of models, graphs and formulas

#### **D. Patterns, Relationships, and Algebra**

1. Solutions of linear equations and inequalities
2. Use of tables and graphs to compare linear patterns
3. Identify variables within equations
4. Represent, analyze and generalize patterns in tables and graphs
5. Graph and solve two-variable equations and inequalities
6. Identify slope, x-intercept, and y-intercept



7. Solve a system of linear equations

**E. Data Analysis, Statistics and Probability**

1. Measures of central tendency (mean, median, & mode)
2. Line plots, stem-and-leaf diagrams, box-and whisker plots
3. Bar graphs and line graphs
4. Recording and organizing data
5. Scatter plots and trends
6. Understanding and designing surveys
7. Construct and interpret circle graphs
8. Counting principle and tree diagrams
9. Permutations and combinations
10. Experimental and theoretical probability
11. Geometric probability
12. Conditional probability
13. Dependent and independent events

TEXT: *Pre-Algebra McDougal/Littell*

**ALGEBRA I** (for those students who qualify/IOWA Aptitude Test administered to grade 7 students in the Spring)

**A. Number Sense and Operations**

1. Operations with real numbers
2. Simplify numerical expressions
3. Square roots and cube roots
4. Estimation as to validity of the solution
5. GCF and LCM of numerical and algebraic expressions

**B. Geometry and Measurement**

1. Using algebraic expressions to represent measurements
2. Using area and perimeter, formulas, supplementary, and complementary angles and angles of a triangle to solve word problems

**C. Pattern, Relations, and Algebra**

1. Real numbers and variable expressions
2. Polynomials (add, subtract, multiply, divide) and factoring
3. Interpretation of equations and inequalities
4. Functions and solutions of linear equations
5. Slope, point-slope, y-intercept formulas
6. Quadratic equations
7. Modeling problems
8. Systems of equations and inequalities

**D. Data Analysis, Statistics and Probability**

1. Measures of central tendency (mean, median, and mode)
2. Line plots, stem-and-leaf diagrams, box-and whisker plots
3. Bar graphs and line graphs
4. Recording and organizing data
5. Scatter plots and trends
6. Understanding and designing surveys

7. Construct and interpret pie graphs
8. Counting principle and tree diagrams
9. Permutations and combinations
10. Experimental and theoretical probability
11. Geometric probability
12. Conditional probability
13. Dependent and independent events

TEXT: *Algebra I Houghton-Mifflin-Dolciani, Swanson, and Graham*

**ALGEBRA II** - For those students who qualified for and completed Algebra I in Grade 7.

TEXT: *Algebra II McDougal/Littell*

### III. SOCIAL STUDIES (WORLD HISTORY) – GRADE 8

#### A. Ancient Rome and the Rise of Christianity (509 B.C. – A.D. 476)

1. The Roman World Takes Shape  
*Up Close:* War With Hannibal  
*Art History:* Mosaic of Nile Delta Scene
2. From Republic to Empire  
*Parallels Through Time:* Hairstyles
3. The Roman Achievement
4. The Rise of Christianity
5. The Long Decline  
*World Literature:* Ovid, *The Metamorphoses*

#### B. Civilizations of the Americas (1400 B.C. – A.D. 1570)

1. Civilizations of Middle America  
*Parallels Through Time:* Play Ball!
2. The World of the Incas  
*Art History:* Peruvian Textile  
*Up Close:* Chosen Women of the Sun
3. Peoples of North America

#### C. Regional Civilizations

The World About 1200

#### D. The Rise of Europe (500-1300)

1. The Early Middle Ages
2. Feudalism and the Manor Economy
3. The Medieval Church  
*Art History:* Illuminated Manuscript  
*Up Close:* Hildegard of Bingen: Adviser to Popes and Kings
4. Economic Expansion and Change  
*Parallels Through Time:* Street Performers

#### E. The High Middle Ages (1050-1450)

1. Growth of Royal Power in England and France
2. The Holy Roman Empire and the Church
3. Europeans Look Outward

- Parallels Through Time: Good Manners*
- Learning, Literature, and the Arts  
*Art History: Chartres Cathedral, France*
  - A Time of Crisis  
*Up Close: The Black Death*

#### **F. The Byzantine Empire and Russia (330-1613)**

- The Byzantine Empire  
*Up Close: Empress With an Iron Will*  
*Art History: Icon of Christ and St Maenas*
- The Rise of Russia  
*Parallels Through Time: St. Nicholas*
- Shaping Easter Europe

#### **G. The Muslim World (622-1650)**

- Rise of Islam
- Islam Spreads
- Golden Age of Muslim Civilization  
*Parallels Through Time: Going Shopping*  
*Up Close: Masters of Medicine*
- Muslims in India
- The Ottoman and Safavid Empires  
*Art History: Persian Decorated Tile*

#### **H. Kingdoms and Trading States of Africa (750 B.C. – A.D. 1586)**

- Early Civilizations of Africa
- Kingdoms of West Africa  
*Up Close: The Emperor's Hajj*  
*Art History: Benin Bronze Sculpture*
- Trade Routes of East Africa
- Many Peoples, Many Traditions  
*Parallels Through Time: Traditions in Fabric*  
*World Literature: Sundiata*

#### **I. Spread of Civilizations in East Asia (500-1603)**

- Two Golden Ages of China  
*Art History: Li Ching, Buddhist Temple in the Hills After Rain*
- The Mongol and Ming Empires  
*Up Close: The Mighty Mongol War Machine*
- Korea and Its Traditions
- An Island Empire Emerges
- Japan's Feudal Age  
*Parallels Through Time: Musical Theater*

#### **J. Early Modern Times**

The World About 1500

#### **K. The Renaissance and Reformation (1300-1600)**

- The Renaissance in Italy  
*Art History: Raphael, The Marriage of the Virgin*
- The Renaissance Moves North  
*Parallels Through Time: The Printing Press*
- The Protestant Reformation
- Reformation Ideas Spread  
*Up Close: Elizabeth I Restores Unity to England*

5. The Scientific Revolution
- L. The First Global Age: Europe and Asia (1415-1796)**
  1. The Search for Spices  
*Up Close: The Quest for El Paso*
  2. Diverse Traditions of Southeast Asia
  3. European Footholds in Southeast Asia and India  
*Parallels Through Time: Endangered Species*
  4. Encounter in East Asia  
*Art History: Japanese Screen Painting*
- M. The First Global Age: Europe, the Americas, and Africa (1492-1750)**
  1. Conquest in the Americas  
*Art History: Gold Ritual Ornament*
  2. Remarking the Americas
  3. Struggle for North America
  4. Turbulent Centuries in Africa  
*Up Close: African Leaders Resist*
  5. Changes in Europe  
*Parallels Through Time: Making a Profit*  
*World Literature: Carlos de Sigüenza y Góngora, The Misadventures of Alonso Ramirez*
- N. The Age of Absolutism (1550-1800)**
  1. Extending Spanish Power  
*Parallels Through Time: "Living" Dolls*
  2. France Under Louis XIV  
*Art History: Salon de la Guerre, Versailles*
  3. Triumph of Parliament in England  
*Up Close: Life in the Commonwealth*
  4. Rise of Austria and Prussia
  5. Absolute Monarchy in Russia
- O. Enlightenment and Revolution**  
The World About 1750
- P. The Enlightenment and the American Revolution (1715-1800)**
  1. Philosophy in the Age of Reason  
*Art History: Houdon, Voltaire*
  2. Enlightenment Ideas Spread  
*Up Close: The Salon in the Rue Saint Honore*
  3. Britain at Mid-Century  
*Parallels Through Time: Political Campaigns*
  4. Birth of the American Republic  
*World Literature: Fanny Burney, Evelina*

TEXT: *World History – McDougal/Littell*

#### **IV. PHYSICAL SCIENCE – GRADE 8**

##### **A. Introduction to Matter**

1. The World of Physical Science
2. The Properties of Matter
3. States of Matter
4. Elements, Compounds, and Mixtures

## **B. Motion and Forces**

1. Matter in Motion
2. Forces and Motion
3. Forces in Fluids

## **C. Work, Machines, and Energy**

1. Work and Machines
2. Energy and Energy Resources
3. Heat and Heat Technology

## **D. The Atom**

1. Introduction to Atoms
2. The Periodic Table

## **E. Interactions of Matter**

1. Chemical Bonding
2. Chemical Reactions
3. Chemical Compounds
4. Atomic Energy

## **F. Electricity**

1. Introduction to Electricity
2. Electromagnetism
3. Electronic Technology

## **G. Waves, Sound, and Light**

1. The Energy of Waves
2. The Nature of Sound
3. The Nature of Light
4. Light and Our World

TEXT: *Holt Science & Technology*

## **I. ART**

### **A. Grade 5**

1. Introduction to the elements and principles
2. Ceramic art history and the vessel
3. One and two point perspective
4. Light interaction with puppetry
5. Developing a sense of pattern in design
6. Introduction to 3-D design principles
6. Modern art history, Keith Haring and his impact on commercial art

### **B. Grade 6**

1. Still life drawings and observation in art
2. Innovation in ceramic design, creating the interlocking device
3. Cell animation and it's historical contribution to art and animation
4. Color theory, primary colors and how to use them to create secondary colors
5. Reinforce 3-D design principals
6. Shading technique and the pencil as art tool
7. Multi-point perspective

### **C. Grade 7**

1. Still life drawings and observation in art reinforced

2. Modern art history, the surrealists'
3. Trump lu ei, art of the exact replica
4. 3-D design reinforced through clay shoes
5. Abstract art and painting
6. Reinforce the elements and principles of design through painting
7. Renaissance invention in art, Chiaroscuro, using light and dark

#### **D. Grade 8**

1. Value and its use in drawing
2. How to build a painting, lessons in layering
3. Pottery and the potters wheel as a tool
4. The engineering behind sculpture, paper sculpture and making it stand up
5. Reduction printmaking, and how the print medium changed art and the world
6. Self-guided studio work, students chose a medium and subject matter to explore independently

## **II. MUSIC**

#### **A. Grade 5**

1. Learn about sound properties
2. Learn how to listen to music
3. Distinguish between major and minor tonality
4. Sing songs in class
5. Play musical instruments
6. Learn about classical composers and their music
7. Dance
8. Study *Peter and the Wolf* by Prokofiev
9. Learn about ecology and music
10. Compose percussion music
11. Have an opportunity to participate in instrumental music
12. Have an opportunity to participate in choral program

#### **B. Grade 6**

1. Learn about the origin of instruments
2. Learn about instrument shapes and groupings
3. Learn how to play the recorder
4. Learn about the *Firebird Ballet* by Stravinsky
5. Sing songs in class
6. Dance
7. Learn about classical composers
8. Review the instruments of the orchestra
9. Learn about how instruments are made
10. Have an opportunity to participate in instrumental music
11. Have an opportunity to participate in the choral program

#### **C. Grade 7**

1. Learn about primitive music
2. Learn about ancient music
3. Learn about global music and culture
4. Learn about renaissance music and instruments
5. Learn about the classical period music and composers
6. Construct a music history timeline from primitive to classical times
7. Have an opportunity to participate in instrumental music

8. Have an opportunity to participate in the choral program

#### **D. Grade 8**

1. Learn about music in early America
2. Learn about American folk music
3. Learn the history of the National Anthem
4. Learn about blues and jazz
5. Learn about rock music
6. Learn about music of immigrants
7. Have an opportunity to participate in instrumental music
8. Have an opportunity to participate in the choral program
9. Prepare musical selections for grade 8 promotion ceremony

### **III. PHYSICAL EDUCATION PROGRAM: GRADES 5-8**

A general philosophy is applied for all grades at the middle school level

- A. Emphasis on understanding the benefits of regular exercise and activity including: healthy heart and lungs through exercising in the target heart rate, prevention of illness and disease as well as a heightened level of mental alertness.
- B. Understand how proper nutrition plays an important role in the health of every individual beginning with good habits during childhood. Eating a variety of foods from the four basic food groups is essential to insure the intake of all of the important vitamins and minerals and a healthy balance of protein, carbohydrates, and “healthy” or simple fats.
- C. Understanding the benefits of good social/ emotional practice through peer communication, conflict resolution and fostering healthy relationships, prevention of violence including identifying “bullies”, prevention of alcohol, tobacco and drug use.
- D. Understand the importance of warm-ups by a combination of stretching and low intensity activity before a period of exercise
- E. Students identify personal strengths and areas of need through the nationally standardized “Presidential Fitness Challenge” test activity
- F. Students participate in a variety of team and individual sports as well as general health/ wellness activities that are more recreational based than typical sports
- G. Development of skills that are taught through a progression of easy to more challenging to encourage all students to participate and develop at their own level of ability
- H. Students are required to change for class to teach the understanding and importance of good personal hygiene especially after a period of exercise.
- I. Understand the importance of regular activity as a life-long commitment

### **IV. HEALTH EDUCATION**

#### **A. Grade 5**

1. Self-esteem
  - a) Explore the concept of self-esteem
2. Fitness/Wellness
  - b) Explain how diet and exercise affect the heart
  - c) Participate in a variety of physical fitness activities and explain the benefits
  - d) Understand that physical fitness and a healthy diet are a life long commitment
3. Nutrition

- a) Label the six parts of the food pyramid, indicate the number of servings recommended from each group, and recognize facts about different foods in the six groups
- b) Demonstrate an understanding of food labeling
- 4. Smoking
  - a) Describe the negative effects smoking has on the body as well as those around us
- 5. Growth & Development
  - a) Explain the value of personal cleanliness
  - b) List the factors contributing to tooth decay and preventive measures

## **B. Grade 6**

- 1. Self-esteem
  - a) Define self-esteem and realize that setting and achieving goals enhances self-esteem
- 2. Fitness/Wellness
  - a) List benefits of exercise to a healthy lifestyle
  - b) Participate in a variety of physical fitness activities and explain the benefits
  - c) Understand the physical fitness and a healthy diet are a life long commitment
- 3. Nutrition
  - a) Evaluate own diet and compare it to the food pyramid
  - b) Determine what a daily serving is
- 4. Drugs
  - a) Define what a drug is
  - b) Compare and contrast positive and negative aspects of drug use
  - c) Identify alternatives to drug use
  - d) Identify factors that influence the decision of young people to use or not use drugs
  - e) Demonstrate ways of refusing drugs
  - f) Understand what gateway drugs are
- 5. Growth & Development
  - a) Demonstrate and understanding of concepts related to puberty

## **A. Grade 7**

- 1. Self-esteem
  - a) Define self-esteem, and recognize that it influences everything we think, say and do
  - b) Recognize conditions that foster high and low self-esteem
- 2. Fitness/Wellness
  - a) Explain the relationship of nutrition and exercise to fitness
  - b) Participate in a variety of physical fitness activities and explain the benefits
  - c) Understand that physical fitness and healthy diet are a life long commitment
- 3. Nutrition
  - a) Identify the essential nutrients for a healthy diet
  - b) Correlate essential nutrients with food sources
  - c) Explain calories and their importance
  - d) Describe the relationship between diet and exercise and the relationship to future diseases such as obesity and heart disease
  - e) Explain and describe eating disorders
- 4. Drugs
  - a) Identify specific drugs according to effects and health risks
  - b) Identify sources of help for drug abuse problems



## **B. Grade 8**

1. Self-esteem
  - a) Consider the role self-esteem plays in a healthy life
  - b) Understand the importance of nurturing own self-esteem
  - c) Analyze personal strengths and weaknesses
2. Fitness/Wellness
  - a) Relate physical fitness to a positive body image
  - b) Participate in a variety of physical fitness activities and explain the benefits
  - c) Understand that physical fitness and a healthy diet is a life long commitment
3. Nutrition
  - a) Analyze fast foods
  - b) Analyze nutritional budgeting
  - c) Explain how food choice in adolescence can affect adult health
4. Alcohol
  - a) Explain the effects that alcohol has on the body
  - b) Identify alcoholism and drug addiction as public health problems
  - c) Describe addiction to alcohol as well as methods for treatment
  - d) Realize the consequences of drinking and driving
  - e) Understand that abstinence from alcohol is the best choice to make

## **V. LIBRARY TOPICS**

- A. Research Strategies
- B. Technology Intergration
- C. Interdisciplinary Units
- D. English/ Language Arts Support

## **VI. TECHNOLOGY**

- A. Science Intergration
- B. Interdisciplinary Units
- C. Research Topics
- D. Smartboard Applications
- E. Grade Specific Topics/ Units