

### SCIENCE—cont.

- Identifies the stages of the water cycle, the nitrogen cycle, and the carbon dioxide-oxygen cycle
- Discusses the impact of man on the environment

### Physical Setting

- Explores the physical properties of matter
- Locates 20 commonly used elements on the Periodic Table
- Recognizes that atoms are made up of protons, electrons, and neutrons
- Identifies the electrical charge and the location in the atom of the proton, electron, and neutron
- Determines the number of protons, neutrons, and electrons for a given atom
- Investigates what heat is and how it differs from temperature
- Understands what happens to matter as it is heated and cooled
- Explains how conduction, convection and radiation transfer heat
- Understands the processes that determine weather including: air pressure, wind, humidity, temperature, and precipitation
- Understands how technology and weather maps are used to forecast weather
- Investigates how to be safe in severe weather

### ART

- Fosters self-esteem through positive, successful art experiences
- Recognizes contributions of artists to society
- Completes interdisciplinary projects
- Develops an awareness of multiculturalism
- Prepares and presents work locally and globally with available technology
- Connects common threads in our world, past and present
- Identifies exemplars, reflective of the kindergarten through sixth-grade artistic experience, to be included within a portfolio format

### HEALTH

- Develops an understanding of the structure and function of the circulatory system
- Identifies effects of drugs on the body systems and elements of peer pressures that may lead to drug use
- Identifies and demonstrates knowledge of healthful eating
- Recognizes ways to prevent the spread of communicable diseases
- Demonstrates an understanding of body changes and hygiene practices associated with puberty

### INFORMATION CENTER

Building on all prior skills with the addition of:

- Use the Big6 research process to complete the required research project: Define the task, Determine the information seeking strategies to be used, Locate/access appropriate information, Use the information gathered, Synthesize the information, Evaluate the research process and product using a rubric.
- Uses criteria to choose sources for various informational needs: Readability, Authority, Timeliness, Reliability (accuracy, relevance, comprehension), Point of view/bias
- Understands the hierarchy of sources (general to the specific)
- Employs search strategies such as keyword, cross reference, synonyms
- Select age appropriate reading materials to support ELA language experience required of all students reading a minimum of 25 books or the equivalent per year across all content areas
- Continue age appropriate internet safety

### INSTRUCTIONAL TECHNOLOGY

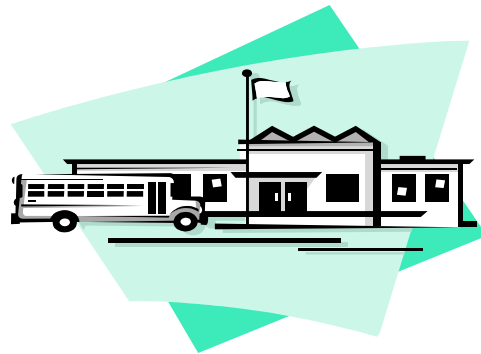
- Review and practice of proper, two-handed keyboarding skills (eg. Type to Learn)
- Uses software and internet for study, practice and individualized instruction and remediation (eg. Study Island, NCTM Illuminations, textbook publisher software, educational web sites)
- Uses digital tools and peripheral devices including Proscope probes, to enhance learning (eg, digital cameras, printers, SmartBoard, microphones or scanners)
- Creates a project (eg, presentation, web page, newsletter, information brochure) using a variety of media and formats (eg, graphs, charts, audio, graphics, photos, video) to present content information to an audience
- Uses word processing as a tool to write, edit and publish research reports, biographies, and genre-related stories including inserting graphics (eg, Word, Storybook Weaver)
- Independently uses one to one computing (computer lab, COWS)
- Understands basic formulas in Excel (eg, average, sum, count, min, max)
- Applies proper online research and Internet safety skills using multiple electronic resources, as learned in the Information Center (see Information Center Essentials)

### MUSIC

- Demonstrates an understanding of proper performance technique
- Develops an age appropriate sensitivity to proper performance
- Expands musical vocabulary to include measures, bar lines, and accidentals
- Develops an appreciation of composers, their music, and styles

### PHYSICAL EDUCATION

- Identifies safety concerns and maintains a safe environment
- Identifies and sets long and short term goals
- Recognizes that time and effort are prerequisites for skill improvement and fitness benefits
- Demonstrates critical thinking skills while participating in sport specific activities
- Accepts and respects the decisions made by game officials whether they are students, teachers, or officials outside of the school



Updated August 2010

# THREE VILLAGE CENTRAL SCHOOL DISTRICT

## Essentials of Learning Grade Six

"What Lies Behind Us And

What Lies Before Us Are

Tiny Matters Compared To

What Lies Within Us."



William Morrow

*The mission of the Three Village Central School District, in concert with its families and community, is to provide an educational environment which will enable each student to achieve a high level of academic proficiency and to become a well-rounded individual who is an involved, responsible citizen.*



# What your children will be taught in Grade Six

This guide provides parents and guardians with an overview of the concepts and skills children will be taught in Language Arts, Mathematics, Social Studies, Science, Art, Health, Information Center, Music, and Physical Education over the course of the school year. As elementary teachers, we recognize that all children develop at different rates socially, emotionally, and academically. We celebrate diversity within our student body, we differentiate instruction and incorporate instructional strategies that will excite, motivate, and challenge all students to achieve their greatest potential. Our elementary program is supportive, nurturing, and provides students with numerous and varied learning experiences to achieve the *Essentials of Learning*.

## LANGUAGE ARTS



### Reading

- Reads a minimum of 25 books, or the equivalent, in all content areas and genres
- Improves oral fluency and duration
- Extends research strategies using multiple resources
- Uses a range of reading strategies such as predicting, recalling facts, summarizing, interpreting, making inferences, and using relevant information to support conclusions
- Uses reading as a tool for learning in the content area
- Integrates information from multiple nonfiction sources to deepen understanding of a topic
- Reinforces comprehension skills: interpret, analyze, and evaluate information, ideas, fact, and opinions
- Uses graphic information to aid in the interpretation of text
- Employs a wide range of word solving strategies, including analogy to know words, word roots, base words, and affixes
- Explores and develops an appreciation for varied topics and genres
- Displays proficiency in identifying story elements
- Interprets figurative language: imagery, metaphors, simile, personification, and idioms
- Uses literature to better understand the world and society
- Begins to develop in-depth written responses to literature



### Writing

- Writes a minimum of 1000 words per month throughout all content areas
- Develops proficiency in nonfiction writing
- Guides the reader through a written text using cohesive organization, details, and transitions
- Writes for a variety of purposes: narrative, expressive, informative, and poetic
- Uses a wide range of techniques to engage the reader by varying sentence structure, leads, and endings
- Integrates literary elements such as character development, plot, climax, setting, and descriptive language

### Writing (continued)

- Uses voice to evoke an emotional response integrating rich vocabulary and vivid language
- Reinforces the use of figurative language such as simile, metaphor, personification, and alliteration
- Uses all aspects of the writing process
- Completes simple, compound and complex sentences using correct subject and verb agreement, verb tense, and pronouns with clear antecedents
- Reinforces proper usage of commas, apostrophes, quotation marks, and introduces usage of semi-colons and colons
- Expands knowledge and use of content area spelling
- Incorporates the use of technology in the writing process

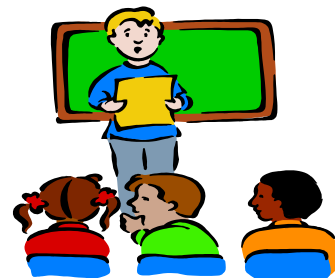


### Listening

- Listens attentively in order to comprehend, evaluate, and respond to verbal directions, ideas, text, and data
- Listens respectfully and responsively in order to maintain social relationships
- Selects and uses strategies for organizing, categorizing, and recording information

### Speaking

- Engages in oral discussion to share data and facts
- Expresses and supports opinions and judgments
- Generates pertinent questions to advance understanding
- Communicates ideas using rich and expressive language
- Demonstrates the use of effective presentation skills



## MATHEMATICS

### Mathematical Reasoning

- Develops various problem solving skills to solve multi-step problems

### Numbers and Numeration

- Comprehends place value to the hundred billions and to the thousandths
- Introduces exponential notation
- Orders whole numbers and decimals
- Reinforces basic skills in relationship to fractions and their operations
- Incorporates percents into conversions of fractions and decimals
- Examines percents of numbers
- Uses the exponential form of powers of 2, 3, 5, and 10 and relates these forms to factoring
- Reviews and teaches ratio and proportion, circle graphs, fractions as a ratio, and three forms of notation for expressing ratio
- Compares and orders integers using a number line

### Operations

- Reinforces addition and subtraction of complex fractions, mixed numbers, decimals to ten-thousandths, and integers
- Divides by three-digit divisors and decimal divisors
- Calculates exponents
- Incorporates use of exponents into order of operations
- Incorporates cross multiplication in creating proportions

### Modeling

- Creates scale drawings as representation using standard and metric numeration
- Graphs ordered pairs in four quadrants
- Develops ability to include complex graphs and higher-level interpretation
- Fortifies use of simple algebraic equations involving constants and variables
- Further develops geometric skills

### Measurement

- Develops knowledge of standard and customary measures
- Relates metric units to customary units through approximation
- Reviews prefixes for metric system
- Uses a protractor to measure and create angles in a circle
- Formulates volume of prisms and cylinders, area and perimeter of triangles and irregular polygons, and circumference and area of circles

### Uncertainty

- Rounds whole numbers to the billions and decimals to the thousandths
- Examines experimental and theoretical probability relationships
- Expresses probability as a fraction, decimal, and percent

### Patterns and Functions

- Solves linear equations
- Solves for the missing value in a proportion
- Compares similarity and congruence in plane and geometric figures
- Distinguishes between quadratic and linear relationships
- Classifies polygons by properties
- Develops readiness for basic concepts of right triangle trigonometry (hypotenuse of a right triangle)

## SOCIAL STUDIES

### Social

- Discovers the importance of interdependence within each civilization in the Eastern Hemisphere
- Examines the connections between the civilizations of the Eastern Hemisphere in terms of ideas, beliefs, and customs
- Analyzes religions of the Eastern Hemisphere and how they developed

### Political

- Compares types of government systems such as: republic, democracy, monarchy, and oligarchy and how and where they developed
- Understands how Hammurabi's Code, the Magna Carta, etc. impacted the development of civilizations and how these laws influenced our modern United States system of government

### Economics

- Draws conclusions on the economic influence of scarcity, supply and demand, wants and needs, and interdependence of countries in the Eastern Hemisphere
- Analyzes how different economic systems relate to the development of social and political systems

### Geography

- Explores geographic reasons for the development of Eastern Hemisphere civilizations, economic systems, and diversity in standards of living

### Historic

- Examines ancient civilizations in the Eastern Hemisphere through the study of river valley civilizations and their cultures
- Understands medieval Europe through the Renaissance focusing on feudalism, its social structure, and the important figures of the period
- Explores conflict and change in 18<sup>th</sup> and 19<sup>th</sup> century Europe and Asia, from the French Revolution through the Industrial Revolution
- Examines conflict and change in the 20<sup>th</sup> century including WWI, WWII, the Cold War, and the fall of Communism

## SCIENCE

### Inquiry, Skills, and Process

- Demonstrates safety in science
- Uses the scientific method to develop and test hypotheses
- Formulates higher level questions to guide investigations
- Determines the validity of results in investigations
- Continues to develop communication and presentation skills
- Uses lab equipment (microscopes, balances, thermometers, and other measuring tools)
- Conducts independent investigations and experimentation
- Uses critical thinking and problem solving skills

### Living Environment

- Reviews the structures of a plant cell
- Identifies the structures and their functions within an animal cell
- Examines the structure and relevance of DNA in life forms
- Compares and contrasts asexual and sexual reproduction
- Understands how change occurs from one generation to another
- Studies the advantages and disadvantages of genetic mutation
- Investigates adaptations
- Explores how populations evolve over time through genetic change (mutation) and environmental factors (adaptation)
- Examines the complexity and balance of environmental ecosystems
- Discovers ecological interactions such as succession, competition, predator-prey relationships, and how these affect the balance of nature