GRADE SEVEN

MATH

DATA, GRAPHS AND STATISTICS
• Bar, double bar and circle graphs
• Line plots
• Stem-and-leaf plots
• Mean, median, mode
• Line graphs
• Trends
• Trend lines
• Scatter plots

ALGEBRA AND INTEGERS
• Use formulas
• Use variables
• Substitution
• Order of operations
• Function tables
• Properties
• Inverse operations translation
• One and two step equations
• Quantitative graphs
• Arithmetic and geometric sequences
• Graph of an equation
• Inequalities
• Opposites
• Absolute value
• Compare and order integers
• Graph ordered pairs
• Add, subtract, multiply and divide integers

DECIMALS
• Compare and order
• Round
• Equations
• Add, subtract, multiply and divide
• Exponents
• Scientific notation

NUMBER THEORY
• Divisibility
• Prime or composite
• Products of primes
• Greatest common factor
• Least common multiple

FRACTIONS
• Equivalent fractions
• Lowest terms
• Compare and order
• Convert between fractions and decimals
• Sums, differences, products, quotients of fractions and mixed numbers
• Equations with fractions and mixed numbers

GEOMETRY
• Name and classify angles
• Parallel and perpendicular lines and their properties
• Name and classify triangles
• Classify polygons
• Angle sums
• Name and sketch polyhedrons
• Draw views of a figure
• Make circle graphs
• Meaning of pi
• Reflection, translation, rotation
• Lines of symmetry
• Rotational symmetry

MEASUREMENT
• Measuring angles
• Connect perimeter and area
• Side of a square given area
• Square roots
• Pythagorean theorem
• Areas of triangles, parallelograms, trapezoid, irregular figures and circles
• Surface area of polyhedrons and cylinders
• Volume of prisms and cylinders

RATIO, RATE, SCALE, PROPORTION
• Simplify rates and ratios
• Equivalent rates and ratios
• Write and solve proportions
• Unit rates
• Cross multiply
• Understand scales
• Read maps
• Calculate distances
• Convert measurements
• Similar figures
• Shadows and heights
• Scale factors of perimeter and area

PERCENT
• Compare quantities
• Less than 1%
• Greater than 100%
• Percent of a number
• Equations to solve problems
• Proportions to solve problems
• Percent increase or decrease
MATH (Continued)
COUNTING AND PROBABILITY
- Tree diagrams
- Counting principle
- Arrangement
- Factorials
- Selection of items when order is unimportant
- Odds
- Probability
- Experimental probability
- Geometric figures
- Independent and dependent events

PROBLEM SOLVING
- Draw a picture
- Choose an operation
- Guess and check
- Work backward
- Solve a simpler problem
- Exact answer or estimate
- Make a table, graph, chart
- Eliminate information
- Look for a pattern

LANGUAGE ARTS
GRAMMAR USAGE AND MECHANICS
- Parts of speech
- Usage
- Capitalization
- Punctuation
- Spelling

WRITING PROCESS
- Prewriting
- Drafting
- Revising
- Editing and proofreading
- Composing the final copy
- Writing and effective paragraph
- Sentence structure
- Different sentence structures
- Fragments
- Sentence combining
- Parallel sentence structure
- Modifiers

WRITING FORMS
- Personal narratives
- Expository
- Persuasive writing
- Description
- Friendly letters
- Business letters
- Research reports
- Poetry conventions and figurative language
- Journal writing
- Free writing
- Newspaper writing
- Movie reviews
- Responding to a picture, illustration, artwork
- Creating a story
- Writing a biography
- Writing an autobiography
- Writing dialogue
- Extending a story
- Maintain a writing folder
- Collaborative writing

READING AND LITERATURE
- Print awareness
- Phonological awareness
- Phonics and decoding
- Word structure
- Word meaning
- Prereading strategies
- Maintaining strategies
- Skills and strategies
- Literary response
- Text structure / literary concepts
- Variety of text
- Fluency
- Cultures
- Critical thinking

CONSUMER LIFE SKILLS
NUTRITION
- Food pyramid
- Reading food labels

CONSUMER EDUCATION
- Discussing marketing and advertising
- Create an edible food package
- Create a marketing/advertising campaign

COOKING
- Safety rules
- Cleanliness
- Table manners
- Importance of breakfast
- Simple snacks

SEWING SKILLS
- Sewing machine
- Safety rules
- Use and care
- Hand sewing/repair
- Construction of projects
THE REVOLUTIONARY ERA
- Crises in the colonies
  The French and Indian War
  Turmoil over taxation
  From Protest to Revolution
- The American Revolution
  Fighting begins in the North
  The Colonies Declare Independence
  Struggles in the Middle States
  Winning the War in the South
- Creating a Republic
  A loose Confederation
  Goals and principles of the Constitution
  Ratification and the Bill of Rights
- Government, Citizenship, and the Constitution
  How the Federal Government works
  Changing the Constitution
  State and Local Governments
  Rights and responsibilities citizenship

THE EARLY REPUBLIC
- Launching the new government
  Washington takes office
  Creating a foreign policy
  Political parties emerge
  The second president
- The age of Jefferson
  A republican takes office
  The Louisiana Purchase
  The road to war
  The War of 1812
- The Nation grows and prospers
  The Industrial Revolution begins
  Americans move westward
  New nations in the Americas
- An era of expansion
- The Jacksonian era
  A new era in politics
  Jackson in the White House
- Westward expansion
- North and South
  Industry in the north
  Cotton kingdom in the south
- Reform and a new American culture
  Opposing slavery
  A call for women’s rights
- Division and reunion
  Slavery divides the nation
  The Compromise of 1850
  The Republican Party emerges
- The Civil War
- Reconstruction and the Changing south

SKILLS
- Map and Globe Skills
  Direction
  Symbols
  Location
  Scale, distance, and shape
  Comparison, use, and interpretation
- Chart and graph skills
- Time Skills
- Citizenship skills
- Thinking skills
- Reading, Writing, and Study Skills

VIDEOGRAPHY
VIDEO PRODUCTION
TECHNOLOGY -II
- Use of camera equipment
- Use of character generator
- Use of special effects generator
- Use of sound equipment
SCRIPT PREPARATION-II
- How to choose academic subject matter
- How to choose appropriate format
- Creating story boards
- Electronic/traditional topic research
- Incorporate facts into script writing
PUBLIC SPEAKING-II
- Stage presence
- Voice control
- Body language
- Dramatic coaching
VIDEO CONSUMERISM
- Evaluation of student production
- Evaluation of commercial production
- Using production skills for independent academic presentations

STUDY SKILLS
- How to use a textbook
- Use the SQ3R method
- Practice good study habits
- Practice note taking and summarizing skills
- Use test-taking strategies
- Practice research skills
SCIENCE

SCIENTIFIC PROCESSES
- Habits of mind
  Evaluate the strengths and weaknesses of data, claims, and arguments
- Scientific Method
- Inquiry and problem solving
  Design and conduct investigations
  Collect, organize, and interpret data that result from experiments
- Safety
  Understand and practice safety procedures for conducting science investigations

SCIENCE AND SOCIETY
- Cultural contributions
  Recognize that scientific theories:
  Develop over time, depend on the contributions of many people, and reflect the social and political climate of their time
- Historical perspectives
  Describe the impact of major events and people in the history of science and technology
  Discuss the significant technological achievements in which science has played an important part
  Describe the historical origin of important scientific developments such as atomic theory, genetics, and plate tectonics

MATHEMATICAL APPLICATIONS
- Numerical operations
  Express quantities using appropriate number formats, such as: decimals, percents, scientific notation
- Geometry and measurement
  Mathematical computations using labeled quantities
  Express answers in correctly derived units
- Patterns and algebra
  Express physical relationships in terms of mathematical equations derived from collected data
- Data analysis and probability
  Represent mathematical relationships using graphs and tables
  Analyze experimental data using mean, median, and mode
  Use computer spreadsheets, graphing and database applications to assist in quantitative analysis of data

NATURE AND PROCESS OF TECHNOLOGY
- Science and technology
  Compare and contrast science and technology
- Nature and technology
  Analyze a product or system to determine the problem it was designed to solve
- Technological Design
  Recognize how feedback loops are used to control systems

CHARACTERISTICS OF LIFE
- Matter, energy and organization in living systems
  How respiration and photosynthesis are recycled
  Multi-cellular organisms are composed of cells, tissues, organs, systems
- Diversity and biological evolution
  Compare and contrast kinds of organisms using their internal and external characteristics
  Discuss how changing environment conditions can result in evolution or extinction of a species
  Recognize that individual organisms with certain traits are more likely to survive and have offspring
- Reproduction and heredity
  Describe how the sorting and recombining of genetic material results in the potential for variation among offspring of humans and other species

INDUSTRIAL ARTS

SAFETY
- Introduction to general safety
- Introduction to machine safety

FINISHING
- Sanding
- Staining
- Clear finishes: polyurethane, lacquer, oil, hand rubbed finish

HAND TOOLS
Demonstration of:
- Planes
- Files
- Chisels
- Hammers
- Screwdrivers

MACHINERY / POWER TOOLS
Demonstration of:
- Band saw
- Disc sander
- Drill press
- Drill
- Router
HEALTH

SAFETY
- Types of pollution and their effect on health
- Drug, tobacco, and alcohol use and abuse
- Various types of drugs and alcohol and effects on the body and mind
- Accident prevention
- First aid review
- CPR and rescue
- Artificial respiration
- Child abuse
- Sexual abuse
- Assault prevention

NUTRITION
- Food selections
- Eating habits
- Fad diets
- Emotions and eating
- Weight loss
- Weight gain
- Health and growth
- Exercise, rest and physical fitness
- Eating disorders
- Nutrition and medical disorders

DISEASE PREVENTION
- Pollution and health
- Consumerism and health care
- Facts and advertising
- Continued review of body systems
- Health discoveries and career opportunities
- Public health services and agencies/community health
- Review various illnesses
- HIV/AIDS
- Public health responses to various illnesses
- Individual health practices

DENTAL HEALTH
- Review
  - Dental care
  - Safety
  - Importance of nutrition
- Selection of qualified dentists
- Review of specialists

FAMILY LIFE EDUCATION
- Family patterns in the United States
- Factors influencing family patterns
- Sources of assistance for families and individuals
- Family dynamics
- Conflicts
- Resolution

COMPUTERS

DEVELOPMENTAL HISTORY OF COMPUTER / COMPUTER AWARENESS
- Know parts of a computer
- Identify, locate and use parts of a computer
- Recognize and understand terminology
- Understand function of components
- Hardware and software
- Run prepared software
- Care of equipment

KEYBOARD AWARENESS
- Show awareness of all key locations
- Demonstrate proper positioning

KEYBOARDING
- Review keyboard technique
- Review alphabet keys
- Practice
- Type paragraphs
- Number and special symbol typing
- Timed paragraph typing
- Software and open screen approach
- Importance of keyboarding
- Re: electronic communication

WORD PROCESSING
- Review terminology
- Understand purpose of word processing
- Use computer as a word processor
- Use software programs

DATABASES
- Identify parts of a database
- Terminology
- Purpose of databases
- Recognize function and application
- Use of databases
- Retrieve and print out information
SPREADSHEETS
- Identify parts of a spreadsheet
- Terminology
- Purpose of spreadsheets
- Recognize function and application
- Use of spreadsheets
- Perform arithmetic functions

PROGRAM AWARENESS
- Use draw and paint program
- Work with simulations
- Work with multimedia technology CD Rom software

ART

DRAWING AND PAINTING
- Pencil portrait
- Landscape
- Ink still life
- Chalk abstract
- Watercolor
- Cubism
- Design theory

CUT AND PASTE
- Collage
- Assemblage
- Cellophane
- Paper

PRINT MAKING
- Gadget
- Styrofoam
- String
- Calligraphy
- Wood
- Stamp

SCULPTURE, CERAMICS AND COLLAGE
- Clay
- Sculpture
- Cardboard
- Material
- Wood

EXPRESSION
- Art history appreciation
- Lessons – related to hands on activity
- Color vocabulary
- Effect of light and shadow
- Space forms
- Perspective
- Line use
- Movement and relationship to environment
- Relation between all elements

PHYSICAL EDUCATION

SPORTS ACTIVITIES
MODIFIED GAMES OF CONTEMPORARY AND TRADITIONAL SPORTS, e.g.
- Soccer
- Volleyball
- Basketball
- Floor hockey
- Track and field
- Softball
- Flag football
- Ultimate football
- Pickle ball
- Cross Country
- Etc.

GAMES OF LOW ORGANIZATION, e.g.
- Games unit
- Scooter activities
- Circuit games
- Speed ball

DANCE
- Folk
- Square
- Contemporary – line/aerobic

PHYSICAL FITNESS
- Warm up exercises relevant to activity testing of fitness components
- Flexibility
- Developing aspects of fitness , e.g. Jogging skills, Rope skipping, Etc.

SPECIAL ACTIVITIES, e.g.
- Obstacle course
- Orienteering
- Project adventure
- Problem solving

SELECTIVE UNIT
- Games of low organization
- Sports activities
- Games units
- Fitness development
- Dance
- Clubs

CIRCUIT TRAINING, e.g.
Fundamental skill development
- Soccer
- Volleyball
- Basketball
- Floor hockey
- Etc.
MUSIC

RHYTHM
- Introduce environmental sounds
- Organized vs. unorganized (noise)
- Awareness of the natural origin of rhythm within the body

MELODY
- Identification
- Awareness of pitch in animals and birds

HARMONY
- Review and reinforce
- As awareness of natural harmonies

FORM
- Review – AAB, AABA, Rondo theme and variation
- Introduce
  ABA form
  Translation of theme
  Leitmotif in music
  The Classic Period
  Sonata allegro

FOLK SONGS
- Influence of African music
- Repertoire

MUSIC IN AMERICA
- Introduce
  Music in television
  Movies, radios, records
  Electronic music

AMERICAN POPULAR MUSIC
- Review
  Rock music – evolution from pop music
  Rock “style” related to harmony

OPERA, OPERETTA, AND ORATORIO
- An opera
- Musical

EXPRESSIVE QUALITIES
- Review and reinforce
- Being aware of
  Tempo and dynamics
  Mood
  Song lyrics to expressive singing

LISTENING SKILLS
- Cultural differences of music
- Selections of appropriate recordings
- Listening to leitmotif
- Listening to form