

TO PARENTS AND GUARDIANS

The Cushman School District exists under the premise that our children are our future. The vision for the district is to provide a learning environment in which the students can meet the challenges of the twenty-first century.

The mission of the Cushman School District is to ensure that all students leave the district having demonstrated competency over challenging subject matter. Students will learn to use their minds so they will be prepared for responsible citizenship, further learning, and productive employment in our nation's modern economy. This education shall not be limited by a student's sex, race, creed, socio-economic background, or handicapping condition. A quality program will provide students with the opportunities and the guidance necessary to develop skills for accessing and processing information, dealing with change, thinking, reasoning and problem solving, developing creativity and positive human relations in order to serve their community and society and achieve personal fulfillment. We believe learning is a lifelong process in which students are expected to take personal responsibility, with no limits on what students can learn, and that learning must take place in an environment free of drugs, violence, firearms, and alcohol. Cushman School also recognizes the diversity of individuals while assuring equity for all.

The Cushman School District has developed these curriculum standards for a dual purpose. First, we have developed these standards as a way to align our curriculum from kindergarten through the twelfth grade. We wanted to ensure that each grade your child progressed through would be a building block upon the prior and future levels. Secondly, we wanted the parents to know what was expected of their children in each grade. Now you know, because of this pamphlet, what we should be teaching and what your child should be learning. Hopefully, this will foster an even greater line of communication between the parents and the school district.

This document was developed under the philosophy that "All Students Can Learn" with love, caring, and dedication to your child's success by the Cushman School District faculty and staff.

Additional information concerning the curriculum standards is available through the principals. Also, please visit our website at <http://bulldog.k12.ar.us>.

Gary V. Anderson
Superintendent

LANGUAGE ARTS AND READING

Language Arts and Reading

All Cushman seventh grade English students will develop the ability to speak and write effectively in Standard English. They will produce various types of writing and be able to read and analyze selected works of literature, both fiction and nonfiction. During literary discussions, they will be given the opportunity to respond effectively, both individually, as group members, orally, and in writing. These abilities are attained through reading, writing, speaking and listening, and language structure. Literacy lab will be used to attain these goals.

Reading

Students will be able to:

- Comprehend, evaluate and respond to works of literature and other kinds of writing which reflect their own cultures and developing viewpoints as well as those of others
- use reading to obtain information in classes across the curriculum
- read for enjoyment and to share what is read with classmates
- determine themes of a variety of literature and identify details which support themes
- analyze related and implied main ideas and supportive details
- analyze text using patterns of organization, such as story elements, cause and effect, comparison and contrast
- analyze literature for purpose, ideas and style of author
- read to discern validity of written material, such as propaganda and bias
- read and follow directions
- apply syntactic, semantic and phonetic cues to decode and construct meaning from print
- employ background knowledge to aid in reading and writing, comprehension, problem-solving strategies and critical thinking
- make inferences and interpretations based on prior knowledge about new information
- analyze features and organization of the text, e.g., bold type, glossary
- compare literary elements, e.g., setting, character traits
- apply literal and inferential comprehension strategies to analyze a variety of genres from diverse cultures and time periods
- establish purpose for reading
- demonstrate proficiency in oral reading
- expand content-specific and personal vocabularies in reading
- employ comprehension strategies, such as skimming and sequencing

- evaluate and react critically to what has been read
- read a variety of materials for a variety of purposes
- self-select reading materials from libraries and other sources
- read to research an idea using various technical resources
- use library and reference skills

Writing

Students will be able to:

- write in class for uninterrupted periods of time about experiences, thoughts and attitudes of self and others
- write in a variety of forms
- write to reflect personal, multicultural and universal ideas
- analyze thinking through the writing of explanations, directions, outlines and story maps
- collect, organize, present data from wide variety of informational and technological resources
- maintain and evaluate a collection of writing samples
- apply a variety of prewriting activities
- develop a first draft that focuses on a central idea
- revise writing based on student-teacher collaborative feedback
- edit using resources to correct spelling, punctuation, grammar and usage
- use developmentally appropriate spelling, usage and mechanics in writing
- use reference materials such as thesaurus, dictionary, and spell check
- expand vocabulary in writing
- evaluate style

Listening and Speaking

Students will be able to:

- respond orally to material read
- use clear concise language when speaking
- expand vocabularies in listening and speaking
- comprehend oral instructions
- give and follow directions
- use clear, concise language when speaking
- listen and contribute to discussions
- analyze and evaluate what is heard
- summarize and paraphrase what others have said
- read orally with meaning and expression
- speak before a group
- exhibit effective use of body and voice
- conduct an interview
- make and respond to introductions
- exhibit effective use of body and voice

MATHEMATICS

All Cushman seventh grade students will be taught the following: 1) properties and operations with real numbers; 2) geometry principles; 3) measurement concepts; 4) data analysis, statistics, and probability; and 5) algebraic relationships and functions.

Properties and Operations with Real Numbers

Students will be able to:

- add, subtract, multiply, divide, and compare positive and negative numbers
- add, subtract, multiply, divide, and compare fractions
- use arithmetic operations to solve real world problems
- use ratios and proportions to solve problems
- use graphs and models to make decisions and predictions
- identify counting numbers, whole numbers, integers, and rational numbers
- solve problems using concepts instead of computation

Geometry Principles

Students will be able to:

- recognize geometric shapes and solids
- determine the area, perimeter, and volume of geometric shapes and solids
- identify acute, obtuse, right, and straight angles
- identify lines of symmetry of geometric shapes
- plot ordered pairs on the Cartesian Coordinate System
- identify geometric solid from the top, side, and front view of the object

Measurement Concepts

Students will be able to:

- correctly overestimate or underestimate according to the problem
- determine when perimeter, area, or volume is the needed information
- recognize when metric or English measurements are appropriate
- recognize and use formulas to solve problems
- calculate rates using different units

Data Analysis, Statistics, and Probability

Students will be able to:

- construct tables, charts, and graphs from data
- make predictions based on tables, charts, and graphs
- use statistical data to support or disprove arguments

- draw conclusions based on statistical information

Algebraic Relationships and Functions

Students will be able to:

- convert sentences into algebraic expressions and equations
- solve one step equations using the property of inverse operations
- recognize and use functional relationships to solve problems

Open Response

- In a separate nine-week course, the seventh graders will have an open response class. This class will help students write and explain how they arrive at their answers to word problems. The students must show all of their work in addition to the explanation. Hopefully, this will help improve critical thinking skills.

LIFE SCIENCE

Life Science is the practical study of the features and functions of living things. The program develops an awareness of living things, the processes that support life, and the relationships among organisms. Students will learn about the living world and acquire skills that will increase their ability to evaluate the world.

Practical Skills

Students will be able to:

- identify the basic units in the metric system
- be able to identify basic lab equipment and use it safely
- list the parts and functions of a microscope
- list the steps of the scientific method

Classification

Students will be able to:

- identify and give examples and needs of living things
- list the seven levels of the classification system
- use binomial nomenclature when naming organisms
- list and give examples of the five kingdoms

The Cell

Students will be able to:

- list the parts of the cell theory
- list and label the parts, functions, and processes in plant and animal cells
- describe cell division and reproduction

Heredity

Students will be able to:

- explain Mendel's role in the history of genetics

- use and interpret the results of a punnett square
- describe some genetic disorders
- analyze genetic information

Simple Living Things

Students will be able to:

- describe the structure of viruses and explain how they reproduce and cause sickness
- explain the value of vaccines
- identify ways bacteria are helpful and harmful
- compare and contrast protist and fungi

Plants

Students will be able to:

- compare nonvascular and vascular plants
- describe life cycles of various plants
- describe plant processes such as photosynthesis and respiration

Animals

Students will be able to:

- compare invertebrates and vertebrates
- identify characteristics and examples of the animal kingdom
- describe various life cycles
- describe animal behavior

The Human Body

- describe the functions of the body systems and the organs associated with each
- analyze the basic processes of the body
- identify ways drugs affect the body

Ecology

Students will be able to:

- list the parts of the food chain and the effects of a food chain on the environment
- describe human effects on the environment and man's relationship among living things

LIBRARY/MEDIA

Students will be able to:

- use a card catalog to locate sources
- use computers to search for information
- use a copy machine
- use audiovisual aides in a presentation
- know about specialized reference books and what information is contained in each
- know how to locate information in reference books
- exhibit proficient use of the dictionary (locate and use entry words, locate and use guide words, locate and use pronunciation keys, select appropriate meaning for given words)
- select and read fiction/nonfiction for pleasure

- read and select key information for research

SOCIAL STUDIES Arkansas History

Students shall develop an understanding of:

- the physical and spatial characteristics and applications of geography.
- how *cultures* around the world develop and change
- the interactions between people and their environment.
- the forms and roles of government.
- the rights and responsibilities of citizens
- significant ideas, events, and people in world, national, state, and local history and how they affect change over time.
- the costs and benefits of making economic choices.
- the use and allocation of *human, natural, and capital resources*
- the exchange of *goods and services* and the roles of governments, businesses, and individuals in the *market* place.

HEALTH

All Cushman seventh grade students will be able to 1) understand the risks associated with drugs, tobacco, and alcohol; 2) know preventative behavior to help avoid sexually transmitted diseases, cancer, and heart disease; 3) apply prevention and treatment strategies for accidents, injuries, and infectious diseases; and 4) develop a positive relationship with themselves and others.

Students will be able to:

- understand the relationship between fitness, nutrition, and body image.
- understand the use, misuse, and abuse of chemicals
- understand themselves and the influences which affect them
- understand major human body systems

RESOURCE

Special Education services offered to grade 7 by the Cushman School District meet all federal and state guidelines. After analyzing the comprehensive evaluation data of a referral, a committee consisting of a regular education teacher, a special education teacher, the parent, and the student determines if the data substantiates placement in special education. That committee for those who qualify then develops an Individualized Education Plan (IEP). Resource students are expected to obtain the goals and objectives stated in their Individual

Education Plan. These goals and objectives correlate with the Arkansas Education Frameworks as closely as abilities will allow. Resource students are placed in their least restrictive environment.

KEYBOARDING

It is important that all Cushman students learn the fundamentals of Keyboarding. Students will develop speed and accuracy by learning the touch operation of alphanumeric/keyboard characters. Keyboarding is foundational for developing entry-level skills for business careers.

Upon completion of Keyboarding, students will be able to demonstrate:

- the proper techniques necessary for operation of the keyboard
- knowledge of functions of computer equipment parts
- correct finger placement on home row keys
- touch method to alphanumeric keys/symbols
- knowledge of basic service keys and their correct usage
- knowledge of spacing rules and apply them
- text and paragraph formatting features
- page setup features
- applying proofreader's marks on keyed copy
- memorandum/e-mail format
- unbound report formatting
- block-style personal/business letter, using open/mixed punctuation
- using columns in a document
- using tables in a document

PHYSICAL EDUCATION

All Cushman seventh grade students will be able to 1) apply movement concept and principles to the learning and development of motor skills; 2) exhibit a physically active lifestyle; 3) achieve a health-enhancing level of physical fitness; 4) demonstrate responsible personal and social behavior in physical activity settings; and 5) understand that physical activity provides opportunities for enjoyment, challenge, self-expression, and social interaction.

Students will be able to:

- assess his/her own physical fitness level
- demonstrate knowledge and skills which better enable and/or improve participation in group and team sports (soccer, softball, volleyball, flag football, pickleball, kickball)

MUSIC APPRECIATION

Music Appreciation is a seventh grade fine arts course. It is designed to allow the students to come to a working understanding of the art of making music and an appreciation of the music of the masters. This is a 9 week course.

Students will be able to:

- learn the basic symbols and terminology of music
- apply that knowledge in playing the recorder, guitar and piano
- study the masters of music throughout music history
- hear important music from all the periods in music history and be able to identify it upon hearing
- recognize styles of music from the Baroque Period through what is popular today.

VOCAL MUSIC

This class is offered to students in seventh through twelfth grade.

Students will:

- Have the opportunity to participate in a large performance/observance TRIP every other year starting in 2004. The trip will be a destination such as BRANSON, KANSAS CITY, and MEMPHIS, OR ST. LOUIS and will be dependent upon current personnel and fundraising efforts.
- Have multiple performances throughout the school year with NO SOLO work required.
- Daily sing many DIFFERENT TYPES OF MUSIC including rock, pop, sacred and secular.
- Demonstrate correct singing and musical concepts/fundamentals.
- COMPOSE melodies and accompaniments for choir using various techniques including PIANO and COMPUTER.
- Learn to ARRANGE songs/parts for other voices and/or instruments.
- Exhibit SELF-DISCIPLINE AND TEAMWORK in daily rehearsals.
- Model appropriate ETIQUETTE as both a performer and an observer.
- Evaluate performances by other groups through trips out of town.
- Share in a POSITIVE LEARNING EXPERIENCE by incorporating exercises for self-esteem, cooperation and teamwork, confidence and service to community.
- Be encouraged to audition for HONOR GROUPS and participate in extra events available throughout the year. Past choir members have been able to attend the ALL-STATE CHOIR convention for three days during the school year, awarded COLLEGE

SCHOLARSHIPS based on ability and selected for various honor groups throughout the nation. Vocal scholarships are available for college students regardless of their chosen major.

INSTRUMENTAL MUSIC

This course is open to all students in grades seven through twelve. It is required that students provide their own instrument (unless special arrangements have been made IN ADVANCE of signing up for the class). Instruments may be obtained by renting them through music dealer (list supplied by teacher) or by owning your own instrument. Band instruments include flute, clarinet, saxophone, French horn, trumpet, trombone, baritone, tuba or percussion only. Special private lessons will be required for all beginners during the first eight weeks for 30 minutes per week. These will be provided free of charge by the teacher or an advanced student either during the school day or before or after school.

Students will be able to:

- Have the opportunity to participate in a large performance/observance TRIP every other year starting in 2004. The trip will be a destination such as BRANSON, KANSAS CITY, and MEMPHIS, OR ST. LOUIS and will be dependent upon current personnel and fundraising efforts.
- Have multiple public performances throughout the year with NO SOLO performances required.
- Play many DIFFERENT TYPES of music including rock, pop, sacred and specific band arrangements.
- Demonstrate correct playing and musical concepts/fundamentals through daily playing.
- Learn BASIC GUITAR AND PIANO TECHNIQUES as time, equipment, and space allow.
- TRANSPOSE band music for various instruments.
- COMPOSE melodies and accompaniments for the group.
- Learn techniques and concepts for marching band DRILL WRITING.
- Exhibit SELF-DISCIPLINE AND TEAMWORK in daily rehearsals.
- Model appropriate ETIQUETTE as both a performer and an observer.
- Evaluate performances by other groups through TRIPS out of town.
- Share in a POSITIVE LEARNING EXPERIENCE by incorporating exercises for self-esteem, cooperation and teamwork, confidence and service to the community.

- Be encouraged to audition for HONOR GROUPS and participate in extra events throughout the year. Instrumental music COLLEGE SCHOLARSHIPS are available for students regardless of their chosen major.

ART

Students will receive an introduction to the visual arts. They will be able to communicate their ideas and emotions through a wide range of media processes, techniques, and tools. Emphasis will be placed on drawing, design, vocabulary, and self-expression.

Students will be able to:

- become familiar with the elements and principles of art
- experiment with various art media and techniques
- express themselves in an artistic manner

GIFTED AND TALENTED

The Gifted and Talented Program at Cushman School promotes higher order thinking skills, independent work, and good decision-making skills. Students are encouraged to be self-motivated and to use creative and inventive thinking processes.

Students will be able to:

- conduct independent research through a chosen or given topic
- use internet to do research
- write a research paper
- make use of alternative ways to share information
- demonstrate poise and confidence while presenting research
- evaluate self and others on oral presentation
- demonstrate positive thinking and analyze its effect on self and others
- identify problems and find solutions
- justify decisions made

ATHLETICS

It as a primary concern at Cushman High School that we develop the well-rounded student athlete. The student athlete at CHS is required to meet all academic requirements and guidelines as required by the Arkansas Activities Association.

Students will be able to:

- develop leadership skills
- cooperate
- develop discipline and dedication
- respect others

- develop social skills
- exhibit sportsmanship
- develop physical fitness
- accept defeat as well as success

**ADVANCED PLACEMENT CLASSES
(Pre-AP)**

All Cushman seventh grade students will be introduced to Advanced Placement through the Pre-Advanced Placement Initiative. The purpose of the Pre-AP Initiative is to prepare those students who wish to pursue AP course work during their Junior and Senior years. Students will be engaged in active, high-level learning, thereby ensuring that every student develops the skills, habits of mind, and concepts they need to succeed. The four content areas will be covered –Math, Science, English and Social Studies.

LANGUAGE ARTS AND READING

Language Arts and Reading

All Cushman eighth grade students will gain a deeper knowledge of English language through reading and writing. Students will evaluate and summarize a variety of literature, produce individually written products, orally express ideas clearly and effectively, and use active listening skills. Emphasis will be given to answering open response questions. These goals will be attained with students using literacy lab in the classroom.

Reading

Students shall:

- Read, comprehend, evaluate, interpret, analyze, make inferences, and appreciate works of literature and other examples of writing, both fiction and nonfiction, prose and poetry
- identify fact/opinion
- read for researching topics
- read and evaluate different types of media
- read and analyze authors' lives with writings
- identify and explain figurative language, conflict, point of view, and theme in literature selections
- use context in literature selections to strengthen vocabulary

Writing

Students shall:

Speaking and Listening

Students will be able to:

- work collaboratively to generate ideas and solve problems
- learn through oral activities such as reader's theater and role-playing
- tell a story/event in chronological order
- identify a topic after listening to a selection
- deliver an oral presentation using correct voice, usage, vocabulary, and body language
- listen effectively in formal and informal situations

Language Structure

Students will be able to:

- use the eight parts of speech correctly
- use punctuation correctly
- identify and correct errors in writing
- construct complex sentences
- pick out the correct spelling of a word from given choices

Reference Skills

Students will be able to:

- use the card catalog

- identify and use the parts of a book
- use the dictionary effectively
- read and identify different parts of a newspaper
- find information from a telephone directory

MATHEMATICS

All Cushman eighth grade students will be taught 1) properties and operations with real numbers; 2) geometry principles; 3) measurement concepts; 4) data analysis, statistics, and probability; and 5) algebraic relationships and functions.

Properties and Operations with Real Numbers

Students will be able to:

- demonstrate competency with number computations involving positive and negative numbers
- select and use appropriate problem solving methods
- apply ratios and proportions to solve problems

Geometry Principles

Students will be able to:

- describe and draw geometric figures in one, two, and three dimensions
- classify and use geometric relationships to solve problems
- use deductive and inductive reasoning to solve problems
- use properties of geometric shapes to solve problems
- represent geometric figures algebraically

Measurement Concepts

Students will be able to:

- select and use the appropriate unit of measurement
- estimate, calculate, and compare measurements of geometric objects
- use formulas for geometric objects to solve problems
- calculate unit rates

Data Analysis, Statistics, and Probability

Students will be able to:

- make predictions using tables and graphs
- determine the probability of a simple event
- apply basic concepts of probability to solve problems

Algebraic Relationships and Functions

Students will be able to:

- describe patterns and functional relationships

- use equations, number lines, and coordinate systems to solve problems
- solve one step and two step algebraic equations
- use mathematical reasoning to justify conclusions
- use function concepts to solve problems
- select and use algebraic concepts found in the workplace

Open Response

- Incorporated into the regular math class are lessons on open response questions. These lessons are designed to help students write and explain how they arrive at their answers to word problems. The students must show all of their work in addition to the explanation. Hopefully, this will help improve critical thinking skills.

EARTH SCIENCE

Earth Science is the study of the Earth and its place in space. This course will help students develop an understanding of forces and effects of nature on the Earth and its environment. Students will also develop an understanding of our place in the vast universe.

Geology and History of Earth

Students will be able to:

- study the formation of the rocks, minerals, and fossils
- relate rocks, minerals, and fossils to the age of the Earth
- identify the layers of the Earth
- understand the states of matter
- demonstrate an understanding of weathering, erosion, and deposition

Meteorology

Students will be able to:

- study the water cycle
- study the impact of water, in all forms, on the Earth
- study cloud types and precipitation including charts and graphs about weather
- understand the force of air pressure on Earth

Measurement

Students will be able to:

- study the metric system and conversions
- learn proper lab techniques

Oceans

Students will be able to:

- understand ocean waves, currents, and animals and plants of the ocean
- identify structures and features of the ocean floor

Plate Tectonics

Students will be able to:

- understand plate tectonics
- infer movement of plates from maps
- study volcanoes and earthquakes

Astronomy

Students will be able to:

- study the stars, planets, and other bodies in the universe and their relationship to one another
- use charts and graphs to analyze and draw conclusions about stars and galaxies
- study Earth's rotation and revolution in relation to seasonal changes

Ecology

Students will be able to:

- study Earth's natural resources, pollution, and environmental problems
- study conservation

LIBRARY/MEDIA

Students will be able to:

- use a card catalog to locate sources
- use computers to search for information
- use a copy machine
- use audiovisual aides in a presentation
- know about specialized reference books and what information is contained in each
- know how to locate information in reference books
- exhibit proficient use of the dictionary (locate and use entry words, locate and use guide words, locate and use pronunciation keys, select appropriate meaning for given words)
- select and read fiction/nonfiction for pleasure
- read and select key information for research

SOCIAL STUDIES

Arkansas History

Arkansas is the study of Arkansas history from early Native American cultures to Arkansas as a modern state.

Students shall develop an understanding of:

- the physical and spatial characteristics and applications of geography.
- how *cultures* around the world develop and change
- the interactions between people and their environment.
- the forms and roles of government.
- the rights and responsibilities of citizens

- significant ideas, events, and people in world, national, state, and local history and how they affect change over time.
- the costs and benefits of making economic choices.
- the use and allocation of *human, natural, and capital resources*
- the exchange of *goods and services* and the roles of governments, businesses, and individuals in the *market place*.

FAMILY AND WORK CONNECTIONS

Students will gain knowledge in:

- Family Career & Community Leaders of America
- personal and family development
- work and family relationships
- home environment
- food, nutrition, and wellness
- resource management
- responsible child care

CAREER ORIENTATION

Through this course students will become knowledgeable about a variety of careers and will acquire abilities needed in the world of work.

Students will be able to:

- keep an organized notebook
- work well with others
- follow directions, use time wisely
- understand the reasons people work
- understand the importance of a positive attitude
- become familiar with the fifteen cluster classification system
- research careers of choice
- study decision-making skills
- gain self-awareness skills
- develop employment skills
- relate career goals to personal interests

COMPUTER TECHNOLOGY

Introduction

Cushman students are facing an ever changing technological world. Therefore, it is important that students are introduced to computers and the business applications that are necessary to live and work in a technological society. CTI emphasize data entry, computer concepts and operations, programming and design, computer software, implication of technology in society, and ethics. This course is designed to provide students with an understanding of the business,

industrial, and scientific area in which the computer is used.

Computing fundamentals are an important aspect of the technological world that students are entering. It is important that students are able to :

- discuss the different types of computers, how they process information, and how they interact with other computer systems and devices
- describe the function of computer hardware and components
- discuss how to purchase computer equipment
- properly maintain computer equipment and solve common problems related to computer hardware
- understand how hardware and software work together to perform computing tasks and how software is developed and upgraded
- categorize software based on type and the tasks to which each type is most suited
- explain what an operating system is and how it works and solve common problems related to operating systems
- understand the purpose of the operating system desktop, files, and disks
- demonstrate how to change system settings, install and remove software

- Students also need to have hands-on experience with the computer. During CTI students will learn:
 - how to start and exit an operating system and use the online help source
 - common on-screen elements of operating system applications, changing application settings and managing files within an application
 - identification of common editing and formatting functions
 - common printing functions
 - formatting text and documents including the ability to use automatic formatting tools
 - insert, edit, and format tables in a document
 - modify worksheet data and format data in a spreadsheet
 - create and format simple presentations
- An important aspect of the technological world, is the World Wide Web. Students will learn:
 - network fundamentals and the benefits and risks of network computing
 - the relationship between computer networks, other computer networks, and the Internet
 - appropriate use of e-mail and e-mail “netiquette”

- different types of information sources on the Internet
- how to search for information online
- how computers are used in different areas of work, school, and home
- risks of using computer hardware and software online
- use computer and Internet safely, legally, and responsibly

RESOURCE

Special Education services offered to Grade 8 by the Cushman School District meet all federal and state guidelines. After analyzing the comprehensive evaluation data of a referral, a committee consisting of a regular education teacher, a special education teacher, the parent, and the student determines if the data substantiates placement in special education. The committee for those who qualify then develops an Individualized Education Plan (IEP). Resource students are expected to obtain the goals and objectives stated in their Individual Education Plan. These goals and objectives correlate with the Arkansas Education Frameworks as closely as abilities will allow. Each resource student is placed in his or her least restrictive environment.

VOCAL MUSIC

This class is offered to students in seventh through twelfth grade.

Students will be able to:

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- Have multiple performances throughout the school year with NO SOLO work required.
- Daily sing many DIFFERENT TYPES OF MUSIC including rock, pop, sacred and secular.
- Demonstrate correct singing and musical concepts/fundamentals.
- COMPOSE melodies and accompaniments for choir using various techniques including PIANO and COMPUTER.
- Learn to ARRANGE songs/parts for other voices and/or instruments.
- Exhibit SELF-DISCIPLINE AND TEAMWORK in daily rehearsals.
- Model appropriate ETIQUETTE as both a performer and an observer.
- Evaluate performances by other groups through trips out of town.

- Share in a POSITIVE LEARNING EXPERIENCE by incorporating exercises for self-esteem, cooperation and teamwork, confidence and service to community.
- Be encouraged to audition for HONOR GROUPS and participate in extra events available throughout the year. Past choir members have been able to attend the ALL-STATE CHOIR convention for three days during the school year, awarded COLLEGE SCHOLARSHIPS based on ability and selected for various honor groups throughout the nation. Vocal scholarships are available for college students regardless of their chosen major.

INSTRUMENTAL MUSIC

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- Have multiple public performances throughout the year with NO SOLO performances required.
- Play many DIFFERENT TYPES of music including rock, pop, sacred and specific band arrangements.
- Demonstrate correct playing and musical concepts/fundamentals through daily playing.
- Learn BASIC GUITAR AND PIANO TECHNIQUES as time, equipment, and space allow.
- TRANSPOSE band music for various instruments.
- COMPOSE melodies and accompaniments for the group.
- Learn techniques and concepts for marching band DRILL WRITING.

- Exhibit SELF-DISCIPLINE AND TEAMWORK in daily rehearsals.
- Model appropriate ETIQUETTE as both a performer and an observer.
- Evaluate performances by other groups through TRIPS out of town.
- Share in a POSITIVE LEARNING EXPERIENCE by incorporating exercises for self-esteem, cooperation and teamwork, confidence and service to the community.
- Be encouraged to audition for HONOR GROUPS and participate in extra events throughout the year. Instrumental music COLLEGE SCHOLARSHIPS are available for students regardless of their chosen major.

MUSIC APPRECIATION II

This is a short course offered as part of the HAMP curriculum. Emphasis will be placed on self-expression through music. All 8th grade students will:

- Review the fundamentals of music
- Compose music in various styles and by various means such as chance, computer and chord progression based
- Create stories and art pieces representative of music listening examples
- Learn about music history, origins of notes and harmony, origins of instruments
- Create a song on computer to be burned on CD for each student to keep

ART

Students will receive an introduction to the visual arts. They will be able to communicate their ideas and emotions through a wide range of media processes, techniques, and tools. Emphasis will be placed on drawing, design, vocabulary, and self-expression.

Students will be able to:

- become familiar with the elements and principles of art
- experiment with various art media and techniques
- express themselves in an artistic manner

GIFTED AND TALENTED

The Gifted and Talented Program at Cushman School promotes higher order thinking skills, independent work, and good decision-making skills. Students are encouraged to be self-motivated and to use creative and inventive thinking processes.

Students will be able to:

- conduct independent research through a chosen or given topic
- use internet to do research
- write a research paper
- make use of alternative ways to share information
- demonstrate poise and confidence while presenting research
- evaluate self and others on oral presentation
- demonstrate positive thinking and analyze its effect on self and others
- identify problems and find solutions
- justify decisions made

ATHLETICS

It as a primary concern at Cushman High School that we develop the well-rounded student athlete. The student athlete at CHS is required to meet all academic requirements and guidelines as required by the Arkansas Activities Association.

Students will be able to:

- develop leadership skills
- cooperate
- develop discipline and dedication
- respect others
- develop social skills
- exhibit sportsmanship
- develop physical fitness
- accept defeat as well as success

ADVANCED PLACEMENT CLASSES (Pre-AP)

All Cushman eighth grade students will be introduced to Advanced Placement through the Pre-Advanced Placement Initiative. The purpose of the Pre-AP Initiative is to prepare those students who wish to pursue AP course work during their Junior and Senior years. Students will be engaged in active, high-level learning, thereby ensuring that every student develops the skills, habits of mind, and concepts they need to succeed. The four content areas will be covered –Math, Science, English and Social Studies.

GRADE 9
English

Language Arts and Reading

All Cushman ninth grade students will strengthen their communication skills, in both oral and written forms, in fluent, standard English, using appropriate grammatical language in each. Students will produce different types of writing, some in response to teacher-composed prompts, and some from analysis of works of literature. Students will be able to read and understand various genres of literature from different cultures and societies, and be able to analyze these selections individually or in a group discussion. Students will participate effectively as speakers and as audience members in discussing and presenting literary topics. Literacy lab will be used to attain these goals.

Reading

Students will be able to:

- read, comprehend, evaluate, interpret, analyze, make inferences, and appreciate works of literature and other examples of writing, both fiction and nonfiction, prose and poetry
- identify fact/opinion
- read for researching topics
- read and evaluate different types of media
- read and analyze authors' lives with writings
- identify and explain figurative language, conflict, point of view, and theme in literature selections
- use context in literature selections to strengthen vocabulary

Writing

Students shall:

- use the writing process steps of prewriting, drafting, revision, and editing to effectively
- produce different types of writing including fiction, nonfiction, and research compiling
- write to a specific audience
- write effective, well-organized paragraphs with appropriate elaboration
- write different types of essays using teacher prompts and literature and author analysis
- write poems
- learn to vary sentence structure by using phrases and clauses to combine sentences effectively
- adapt content vocabulary, voice and tones
- avoid the use of empty expressions in formal writing
- edit written work for appropriate spelling, usage, and mechanics
- keep a personal journal to record observations, thoughts, and reactions
- write variety of letters

- write during a given time frame from a prompt
- write across the curriculum

Speaking and Listening

Students will be able to:

- prepare and deliver oral presentations focusing on fiction and nonfiction selections using only notes and using correct grammar
- hold class or group discussions about literary topics; critique presentations
- adjust oral presentation to appropriate audience
- select and use effectively a variety of visual aids
- listen and process verbal information by recalling details after listening to a selection
- identify listening barriers and solutions

Grammar and Usage

Students will be able to:

- identify and correct misplaced modifiers, sentence fragments, run-on sentences, unnecessary repetition, faulty parallelism, redundancy, and empty expressions in written work
- correctly use punctuation and capitalization rules
- use modifiers effectively
- combine sentences effectively using phrases and clauses
- use correct verb forms and tenses
- identify and correct pronoun/antecedent and subject/verb disagreements
- use correct spelling

GRADE 10
English

Language Arts and Reading

All Cushman tenth grade students will develop the ability to function effectively within the school environment and the world of work and/or higher education. Emphasis will be given to strengthening all communication skills including speaking, writing, and using appropriate grammatical language. Literacy lab will be used throughout the year to strengthen these skills. Students will be able to read and understand various genres of literature from different cultures and societies, and be able to analyze these selections individually and in group discussions. Analysis will be presented both orally and in written forms.

Reading

Students will be able to:

- apply literal and inferential understanding after reading a variety of literature genres
- summarize and generalize

- demonstrate analysis and evaluation
- read across the curriculum a variety of practical texts
- read, analyze, and evaluate a variety of poetry types
- read and analyze a variety of dramatic selections, including classical and tragedy
- read a variety of literary and content prose
- explain vocabulary through reading, listening and discussing

Writing

Students will be able to:

- Apply prewriting strategies to address purpose and audience
- communicate clearly the purpose of the writing
- write clear and varied sentences
- elaborate ideas clearly and accurately
- adapt content vocabulary, voice, and tone to audience, purpose and situation
- arrange paragraphs into a logical progression with appropriate transition
- revise content of writing for central idea, elaboration, unity, and organization
- revise style of writing for selected vocabulary, selected information, sentence variety, tone and voice
- revise sentence formation in writing for completeness, coordination, subordination, standard word order and absence of fused sentences
- apply grammatical conventions to edit for standard inflections, agreement, word meaning and conventions
- apply grammatical conventions for capitalization, punctuation, formatting, and spelling
- refine selected pieces frequently to publish for intended audiences and purposes
- maintain a writing portfolio that exhibits growth and reflection while meeting goals and expectations
- use available technology for all aspects of the writing process
- adjust levels of formality, style, and tone when composing for different audiences
- write short stories that communicate a variety of skills
- write expository compositions, including analytical essays, and research reports
- write a variety of letters
- write a variety of types of poems
- write responses to literature
- write on demand to a specified prompt within a given time frame
- use verbal and verbal phrases to achieve sentence conciseness and variety
- apply usage rules appropriately in all formal writing

- demonstrate appropriate use of active and passive voice
- apply conventional rules of capitalization in writing
- apply punctuation rules appropriately in writing
- use figurative language
- use a variety of sentence structures, types, and lengths to contribute to fluency and interest
- demonstrate organization, unity, and coherence
- personalize writing to convey voice in formal and informal pieces
- evaluate own writing and others' writing

Speaking and Listening

Students will be able to:

- speak to share understanding and information
- adjust oral language to audience and apply rules of standard English
- prepare and participate in structured discussions
- use appropriate visual aids in presentations
- participate in a variety of speaking activities such as scenes from a play, oral book reports, monologues, memorization of lines, character analysis, literary reviews, and excerpts from famous speeches
- listen for information, interpretation, critical analysis, and evaluation
- identify barriers to listening and generate methods to overcome them
- critique presentations
- demonstrate attentive, reflective, and critical listening skills to respond to and interpret speaker's message
- analyze media
- evaluate media credibility

Inquiring/Researching

- access information
- evaluate credibility and identify relevant information
- interpret and present information
- use reference materials such as the following: card catalog, *Reader's Guide*, magazine index, thesaurus, biographical reference, gazetteer, atlas, quotation book, encyclopedia, and yearbook

GRADE 11

English

Language Arts and Reading

All Cushman eleventh grade students will strengthen their abilities in the language arts area by analyzing various themes in literature focusing on the critical thinking skills necessary

for success in the classroom and in the business community as they prepare for their futures. Opportunities for growth will include expressive, innovative written products, oral presentation, group work, research, and literature analysis. Students will read, discuss, and analyze American Literature from several different periods, as well as contemporary short stories, plays, and poetry. Students will participate in at least three literature-based oral presentations focusing both on fiction and nonfiction material. Students will practice communicating their ideas, both orally and in writing, in large and small groups, and formally and informally.

Reading

Students will be able to:

- read novels, biographies, and classic literature and present them in writing or oral presentations
- read and comprehend a variety of literature selections and genres and be able to produce written and oral work
- read and answer research questions
- identify fact and opinion
- read, interpret, and evaluate poetry
- read technical material on a particular topic, take notes, and compile research, using library reference skills
- read and identify different parts of a newspaper
- identify and evaluate different types of media

Writing

Students will be able to:

- develop a thesis and angle in writing
- write to produce responses to literature, including analysis of literature themes
- apply appropriate prewriting techniques
- write from prompts given during a selected time frame
- analyze way authors' lives reflect their writing
- write different types of essays, including personal narrative, expository, and persuasive pieces using the components of the writing process
- write effective letters
- write an effective compilation of research done on a particular topic or literary theme using a particular research style and appropriate footnote and bibliographical references to cite sources
- write effectively omitting empty expressions, redundancy, and unnecessary repetition
- combine sentences effectively using phrases and clauses
- write poetry, including ballads and sonnets

Speaking and Listening

Students will be able to:

- prepare and deliver several oral presentations covering current issues and literary analysis
- participate in book reviews as oral presentations or as part of a structured group discussion or oral presentation with class or other classes
- listeners will discuss oral presentations with speakers
- recognize listening barriers and solutions

Grammar and Usage

Students will be able to:

- demonstrate effective control of grammar, paragraph structure, punctuation, capitalization, sentence construction and combining, spelling and usage
- edit their writings effectively

GRADE 12

English

Language Arts and Reading

All Cushman twelfth grade students will strengthen their abilities in the language arts area by analyzing various themes in literature focusing on the critical thinking skills necessary for success in the classroom and in the business community as they prepare for their futures. Opportunities for growth will include expressive, innovative written products, oral presentation, group work, research, and literature analysis. Students will read, discuss, and analyze British Literature from several different periods, as well as contemporary short stories, plays, and poetry. Students will participate in at least three literature-based oral presentations focusing both on fiction and nonfiction material. Students will practice communicating their ideas, both orally and in writing, in large and small groups, and formally and informally.

Reading

Students will be able to:

- read novels, biographies, and classic literature and present them in writing or oral presentations
- read and comprehend a variety of literature selections and genres and be able to produce written and oral work
- read, interpret, and evaluate poetry
- read technical material on a particular topic, take notes, and compile research
- read and evaluate critical essays
- evaluate different types of media

Writing

Students will be able to:

- develop a thesis and angle in writing
- write to produce responses to literature, including analysis of literature themes
- write different types of essays, including personal narratives, expository, and persuasive pieces using the components of the writing process
- write effective compilation of research done on a particular topic or literary theme using a particular research style and appropriate footnote and bibliographical references to cite sources.
- write poems
- write effectively omitting empty expressions, redundancy, and unnecessary repetition and adapting vocabulary to reflect tone and voice
- combine sentences effectively using phrases and clauses
- write cover letters
- write from prompt within time limits given
- apply appropriate prewriting strategies
- communicate clearly
- evaluate how authors' lives affect writing

Speaking and Listening

Students will be able to:

- prepare and deliver several oral presentations to class and/or other classes
- participate in book reviews as oral presentations or as part of a group discussion
- listeners will critique oral presentations with speakers
- identify barriers to listening and solutions

Grammar and Usage

Students will be able to:

- demonstrate effective control of grammar, paragraph structure, punctuation, capitalization, sentence construction and combining, spelling and usage
- edit their writing effectively

ORAL COMMUNICATIONS

Students who have successfully completed oral communications at Cushman High School will be able to express ideas clearly and effectively in a variety of oral activities and will be able to apply good listening skills in the analysis and evaluation of oral presentations. These activities include speeches, group discussions, and one-to-one communication. Students will also perform in a theatrical event.

Students will be able to:

- demonstrate effective oral communication skills to express ideas and to present information

- demonstrate effective listening skills in formal and informal settings to facilitate communication
- demonstrate knowledge and understanding of media as a mode of communication
- prepare and participate in structured discussions
- speak to share understanding and information
- speak for literary response, expression and analysis
- listen for information interpretation, critical analysis and evaluation
- critique a presentation for clarity, accuracy, relevance, organization, and effectiveness
- respond to and interpret speaker's message
- analyze media
- evaluate media credibility
- present expository and persuasive information
- present impromptu speeches
- work effectively in groups
- identify the elements of play production through participation in a play

JOURNALISM

Journalism students will study newspaper production by publishing a school newspaper that will include news articles as well as editorials. The class will also focus on writing skills, historical and ethical aspects of journalism, journalism as a career, and types of news media.

Students will be able to:

- write clearly and concisely
- write quality lead paragraphs
- gather and write news, features, and editorial stories
- understand the place of free press in a democracy
- be familiar with journalism and related fields as career options
- design and manage the production of the school newspaper
- devise methods to improve production

ALGEBRA I

These are the SLEs that must be mastered in Algebra I. Other algebraic properties should be taught to adequately prepare students for Geometry and Algebra II. Students should be able to describe and translate among graphic, algebraic, numeric, tabular, and verbal representations of relations and use those representations to solve problems. The process of collecting and analyzing data should be embedded throughout this course. Appropriate

technology and manipulatives should be used regularly for instruction and assessment. Students should be able to judge the meaning, utility, and reasonableness of results of symbol manipulations, including those carried out by technology.

The Language of Algebra

Students will be able to:

- evaluate algebraic expressions, including radicals, by applying the order of operations
- translate word phrases and sentences into expressions, equations, and inequalities and vice versa
- apply the laws of (integral) exponents
- solve problems involving scientific notation
- perform polynomial operations (addition, subtraction, multiplication) with and without manipulatives
- simplify algebraic fractions by factoring
- recognize when an expression is undefined
- simplify radical expressions
- add, subtract, and multiply simple radical expressions

Solving Equations and Inequalities

Students will be able to:

- solve multi-step equations and inequalities with rational coefficients numerically (from a table or guess and check); algebraically (including the use of manipulatives); graphically, and technologically
- solve systems of two linear equations numerically (from a table or guess and check); algebraically (including the use of manipulatives); graphically, and technologically
- solve linear formulas and literal equations for a specified variable
- solve and graph simple absolute value equations and inequalities
- solve real world problems that involve a combination of rates, proportions and percents
- solve problems involving direct variation and indirect (inverse) variation to model rates of change
- use coordinate geometry to represent and/or solve problems (midpoint, length of a line segment, and Pythagorean Theorem)
- communicate real world problems graphically, algebraically, numerically and verbally

Linear Functions

Students will be able to:

- distinguish between functions and non-functions/relations by inspecting graphs, ordered pairs, mapping diagrams and/or tables of data

- determine domain and range of a relation from an algebraic expression, graphs, set of ordered pairs, or table of data
- know and/or use function notation, including evaluating functions for given values in their domain
- identify independent variables and dependent variables in various representational modes: words, symbols, and/or graphs
- interpret the rate of change/slope and intercepts within the context of everyday life (Ex. Telephone charges based on base rate (y-intercept) plus rate per minute (slope))
- calculate the slope given two points, the graph of a line, and the equation of a line
- determine by using slope whether a pair of lines are parallel, perpendicular, or neither
- write an equation in slope-intercept form given two points, a point and y-intercept, x-intercept and y-intercept; a point and slope, a table of data, and the graph of a line
- describe the effects of parameter changes, slope and/or y-intercept, on graphs of linear functions and vice versa

Non-Linear Functions

Students will be able to:

- factor polynomials greatest common factor; binomials (difference of squares), and trinomials
- determine minimum, maximum, vertex, and zeros, given the graph
- solve quadratic equations using the appropriate methods with and without technology factoring and quadratic formula with real number solutions
- recognize function families and their connections including vertical shift and reflection over the x-axis quadratics; absolute value, and exponential functions
- communicate real world problems graphically, algebraically, numerically and verbally

Data Interpretation and Probability

Students will be able to:

- construct and use scatter plots and line of best fit to make inferences in real life situations
- use simple matrices in addition, subtraction, and scalar multiplication
- construct simple matrices for real life situations
- determine the effects of changes in the data set on the measures of central tendency
- use two or more box-and-whisker plots to compare data sets
- construct and interpret a cumulative frequency histogram in real life situations

- recognize linear functions and non-linear functions by using a table or a graph
- compute simple probability with and without replacement
- recognize patterns using explicitly defined and recursively defined linear functions
- communicate real world problems graphically, algebraically, numerically and verbally

GEOMETRY

This course will help students develop communication skills, enhance reasoning, and make connections within mathematics to other disciplines and the real world. Students will use physical models and appropriate technology to investigate geometric concepts in problem solving situations. In this course, students are engaged in problematic situations in which they form conjectures, determine the validity of these conjectures, and defend their conclusions to classmates.

Language of Geometry

Students will be able to:

- define, compare and contrast inductive reasoning and deductive reasoning for making predictions based on real world situation with venn diagrams, matrix logic, and conditional statements (statement, inverse, converse, and contrapositive)
- represent points, lines, and planes pictorially with proper identification, as well as basic concepts derived from these undefined terms, such as segments, rays, and angles
- describe relationships derived from geometric figures or figural patterns
- apply, with and without appropriate technology, definitions, theorems, properties, and postulates related to such topics as complementary, supplementary, vertical angles, linear pairs, and angles formed by perpendicular lines
- explore, with and without appropriate technology, the relationship between angles formed by two lines cut by a transversal to justify when lines are parallel
- give justification for conclusions reached by deductive reasoning

Triangles

Students will be able to:

- apply congruence (SSS...) and similarity (AA...) correspondences and properties of figures to find missing parts of geometric figures and provide logical justification
- investigate the measures of segments to determine the existence of triangles (triangle inequality theorem)

- identify and use the special segments of triangles (altitude, median, angle bisector, perpendicular bisector, and midsegment) to solve problems
- apply the Pythagorean Theorem and its converse in solving practical problems
- use the special right triangle relationships to solve problems
- use trigonometric ratios (sine, cosine, tangent) to determine lengths of sides and measures of angles in right triangles including angles of elevation and angles of depression

Measurement

Students will be able to:

- calculate probabilities arising in geometric contexts (Ex. Find the probability of hitting a particular ring on a dartboard.)
- apply, using appropriate units, appropriate formulas (area, perimeter, surface area, volume) to solve application problems involving polygons, prisms, pyramids, cones, cylinders, spheres as well as composite figures, expressing solutions in both exact and approximate forms
- relate changes in the measurement of one attribute of an object to changes in other attributes (Ex. How does changing the radius or height of a cylinder affect its surface area or volume?)
- use (given similar geometric objects) proportional reasoning to solve practical problems (including scale drawings)
- use properties of parallel lines and proportional reasoning to find the lengths of segments

Relationships Between Two- and Three-Dimensions

Students will be able to:

- explore and verify the properties of quadrilaterals
- solve problems using properties of polygons: sum of the measures of the interior angles of a polygon, interior and exterior angle measure of a regular polygon or irregular polygon, and number of sides or angles of a polygon
- identify and explain why figures tessellate
- identify the attributes of the five Platonic Solids
- investigate and use the properties of angles (central and inscribed) arcs, chords, tangents, and secants to solve problems involving circles
- solve problems using inscribed and circumscribed figures

- use orthographic drawings (top, front, side) and isometric drawings (corner) to represent three-dimensional objects
- draw, examine, and classify cross-sections of three-dimensional objects

Coordinate Geometry and Transformations

Students will be able to:

- use coordinate geometry to find the distance between two points, the midpoint of a segment, and the slopes of parallel, perpendicular, horizontal, and vertical lines
- write equations of lines in slope-intercept form and use slope to determine parallel and perpendicular lines
- determine, given a set of points, the type of figure based on its properties (parallelogram, isosceles triangle, trapezoid)
- write, in standard form, the equation of a circle given a graph on a coordinate plane or the center and radius of a circle
- draw and interpret the results of transformations and successive transformations on figures in the coordinate plane translations, reflections, rotations, and dilations

ALGEBRA II

Algebra II is designed for students who have successfully completed Algebra I (or its equivalent). Algebra II will build on the basic concepts presented in Algebra I to encourage higher order thinking. Algebra II students will represent and analyze mathematical situations. The students will analyze and apply a variety of methods to model and graph linear and nonlinear equations and inequalities. Students will also use algebraic, graphical, and numerical methods for analysis of quadratic equations and functions and polynomials and rational functions.

Exponential functions, logarithmic functions, data analysis, and probability will be explored in Algebra II.

Relations and Functions

Students will be able to:

- determine, with or without technology, the domain and range of a relation defined by a graph, a table of values, or a symbolic equation including those with restricted domains and whether a relation is a function
- evaluate, add, subtract, multiply, divide and compose functions and give appropriate domain and range restrictions
- determine the inverse of a function (graph, with and without appropriate technology, functions and their inverses)
- analyze and report, with and without appropriate technology, the effect of

changing coefficients, exponents, and other parameters on functions and their graphs (linear, quadratic, and higher degree polynomial)

- determine, with and without appropriate technology, whether a function is even, odd or neither to analyze the behavior of a graph
- graph, with and without appropriate technology, functions defined as piece-wise and step
- apply the concepts of functions to real world situations

Linear and Absolute Value Equations and Inequalities

Students will be able to:

- translate linear equations from one form (slope-intercept, point-slope, and standard) to another
- develop, write, and graph, with and without appropriate technology, equations of lines in slope-intercept, point-slope, and standard forms given a point and the slope, two point, and a real world data
- develop, write and graph (given the point and the slope, two points, or a point and a line) equations of a parallel line, a perpendicular line, and a perpendicular bisector of a segment
- solve, with and without appropriate technology, absolute value equations and inequalities written in one or two variables, and graph solutions
- solve, with and without appropriate technology, systems of linear equations and systems of linear inequalities with two or more variables through the use of graphs, tables, matrices, and other algebraic methods
- develop and apply, with and without appropriate technology, the basic operations and properties of matrices (associative, commutative, identity, and inverses)
- apply with or without technology, the concepts of linear and absolute value equations and inequalities and systems of linear equations and inequalities to model real world situations including linear programming

Quadratic Equations and Functions

Students will be able to:

- perform computations with radicals – simplify radicals with different indices; add, subtract, multiply and divide radicals; rationalize denominators; solve equations that contain radicals or radical expressions
- extend the number system to include the complex numbers – evaluate powers of i ;

add, subtract, multiply, and divide complex numbers; rationalize denominators

- solve quadratic equations with and without appropriate technology by – extracting the square root; graphing; factoring; completing the square; using the quadratic formula
- develop and analyze, with and without appropriate technology, quadratic relations – graph a parabolic relationship when given its equation; write an equation when given its roots (zeros or solutions) or graph; determine the nature of the solutions graphically and be evaluation the discriminant; determine the maximum or minimum values and the axis of symmetry both graphically and algebraically
- apply the concepts of quadratic equations and functions to model real world situations by using appropriate technology when needed

Polynomial and Rational Functions

Students will be able to:

- determine the factors of polynomials by using factoring techniques including grouping and the sum or difference of two cubes; using long division; using synthetic division
- develop and analyze, with and without appropriate technology, polynomial functions from their roots, graphs, or equations – write an equation when given its factors or roots (zeros or solutions); determine the x- and y- intercepts; describe the end behaviors; sketch the graph
- solve, with and without appropriate technology, polynomial equations, including real world situations, graphically, numerically (using tables), and algebraically
- simplify, add, subtract, multiply, and divide with rational expressions
- graph, with and without appropriate technology, rational functions of the form $y = 1/x$ and $y = 1/x^2$ and their transformations and identify x- and y- intercepts, domain restrictions, and vertical asymptotes
- solve, with and without appropriate technology, problems using rational equations, including proportions, rate, and variation (direct, inverse (indirect), or joint) and real world problems
- establish the relationship between radical expressions and expressions containing rational exponents
- simplify variable expressions containing rational exponents using the laws of exponents

Exponential and Logarithmic Functions

Students will be able to:

- interpret and graph, with and without appropriate technology, exponential functions
- solve, with and without appropriate technology, exponential equations, including real world problems
- establish the relationship between exponential and logarithmic functions
- evaluate simple logarithms using the definition

Data Analysis and Probability

Students will be able to:

- interpret and evaluate, with and without appropriate technology, graphical and tabular data displays for consistency with the data; appropriateness of type of graph or data display; scale; overall message
- calculate, with and without appropriate technology, probabilities of events using the laws of probability – apply the Fundamental Counting Principle; distinguish between and use permutations and combinations, calculate conditional probability; calculate probabilities of mutually exclusive events, independent events, and dependent events

ALGEBRAIC CONNECTIONS

Algebraic Connections is designed for students who have successfully completed Algebra I (or its equivalent) and Geometry (or its equivalent). Algebraic Connections will build on a foundation of previously taught Algebra and Geometry concepts, enlarge upon the development of each concept, and introduce new concepts. Students will be expected to evaluate data, interpret data, analyze linear functions, write and solve equations and inequalities and their systems, and use algebraic, graphical, and numerical methods for analysis.

Probability and Statistics

Students will be able to:

- apply counting techniques to determine the number of outcomes – tree diagram; fundamental Counting Principle; permutations (with and without repetition); combinations
- conduct and interpret simple probability experiments using – manipulatives (spinners, dice, cards, coins); simulations (using random number tables, graphing calculators, or computer software)
- compute and display theoretical and experimental probability including the use of Venn diagrams – simple; complementary; compound (mutually

- exclusive, inclusive, independent and dependent events)
- apply probability to real-world situations such as weather prediction, game theory, fair division, insurance tables, and election theory
- interpret and evaluate, with and without appropriate technology, graphical and tabular data displays for consistency with the data, appropriateness of type of graph or data display, scale and overall message

Linear Function

Students will be able to:

- create, given a graph without an explicit formula, a written or oral interpretation of the relationship between the independent and dependent variables
- create, given a situation, a graph that models the relationship between the independent and dependent variables
- determine the independent and dependent variables, domain and range of a relation from an algebraic expression, graph, set of ordered pairs, or table of data
- interpret the rate of change (slope) and intercepts within the context of everyday life (Ex. telephone charges based on base rate (y-intercept) plus rate per minute (slope))
- calculate the slope given two points, a graph of a line, and an equation of a line
- determine, using slope, whether a pair of lines are parallel, perpendicular, or neither
- write an equation given two points, a point and y-intercept, an x-intercept and y-intercept, a point and slope, a table of data, and the graph of a line
- graph, with and without appropriate technology, functions defined as piece-wise and step

Solving Equations and Inequalities

Students will be able to:

- solve, with and without appropriate technology, multi-step equations and inequalities with rational coefficients numerically, algebraically and graphically
- solve, with and without appropriate technology, systems of two linear equations and systems of two inequalities numerically, algebraically and graphically
- solve linear formulas and literal equations for a specified variable
- use, with and without appropriate technology, coordinate geometry to represent and solve problems including midpoint, length of a line segment and Pythagorean Theorem
- determine and describe, with and without appropriate technology, the resulting

change in the perimeter, area, and volume when one or more dimensions change (apply this idea in solving real world problems)

- apply linear, piece-wise and step functions to real world situations that involve a combination of rates, proportions and percents such as sales tax, simple interest, social security, constant depreciation and appreciation, arithmetic sequences, constant rate of change, income taxes, postage, utility bills, commission, and traffic tickets

Nonlinear Function

Students will be able to:

- factor polynomials – greatest common factor; binomials (difference of squares); trinomials; combinations of the above
- simplify, add, subtract and multiply radical expressions
- solve, with and without appropriate technology, quadratic equations with real number solutions using factoring and the quadratic formula
- determine the independent and dependent variables, domain and range of a relation from algebraic equations, graphs, sets of ordered pairs, or tables of data
- identify and apply nonlinear functions to real world situations such as acceleration, area, volume, population, bacteria, compound interest, percent depreciation and appreciation, amortization, geometric sequences, etc
- recognize function families including vertical shifts, horizontal shifts and reflections over the x-axis

PRE-CAL AND TRIGONOMETRY

Pre-Calculus including trigonometry is designed for students who have successfully completed Algebra II and Geometry. Students will use symbolic reasoning and analytical methods to represent mathematical situations, to express generalizations, and to study mathematical concepts and the relationships among them. Students will use functions and equations as tools for expressing generalizations. This course will emphasize a study of trigonometric functions and identities as well as applications of right triangle trigonometry and circular functions. Students will be introduced to polar coordinates in this class.

Polynomial and Rational Functions

Students will be able to:

- investigate and sketch, with and without appropriate technology, the graphs of polynomial and rational functions using the

characteristics of domain and range, upper and lower bounds, maximum and minimum points, asymptotes and end behavior, zeros, multiplicity of zeros, y-intercepts, and symmetry

- solve, with and without appropriate technology, polynomial equations utilizing techniques such as Descartes' Rule of Signs, upper and lower bounds, Intermediate Value Theorem and Rational Root Theorem
- describe with and without appropriate technology, the fundamental characteristics of rational functions: zeros, discontinuities (including vertical asymptotes), and end behavior (including horizontal asymptotes)
- apply the concepts of polynomial and rational functions to model real world situations using appropriate technology when needed

Exponential and Logarithmic Functions

Students will be able to:

- establish the inverse relationship between exponential and logarithmic functions
- develop and apply the laws of logarithms and the change-of-base formula to simplify and evaluate expressions
- solve graphically, algebraically and numerically, with and without appropriate technology, equations and real world problems involving exponential and logarithmic expressions
- find, with and without appropriate technology, the domain, range, intercepts, and asymptotes of logarithmic and exponential functions
- draw and analyze, with and without appropriate technology, graphs of logarithmic and exponential functions

Conics

- identify, graph, write, and analyze equations of conic sections, using properties such as symmetry, intercepts, foci, asymptotes, and eccentricity, and when appropriate, use technology
- solve, with and without appropriate technology, systems of equations and inequalities involving conics and other types of equations
- solve, with and without appropriate technology, real world problems involving conic sections

Sequences and Series

Students will be able to:

- develop, with and without appropriate technology, a representation of sequences recursively

- define and discriminate between arithmetic and geometric sequences and series and use appropriate technology when needed
- solve, with and without appropriate technology, problems involving the sum (including Sigma notation) of finite and infinite sequences and series
- determine the nth term of a sequence given a rule or specific terms and use appropriate technology when needed
- use, with and without appropriate technology, sequences and series to solve real world problems

Trigonometric Functions

Students will be able to:

- define the six trigonometric functions as circular functions, ratios of sides of right triangles, and functions of an angle in standard position when given a point on the terminal side of the angle
- use degrees and radians interchangeably to represent angle measure
- sketch an angle in standard position and determine the reference angle and coterminal angles
- find the values of the trigonometric functions given the value of one trigonometric function and an additional piece of qualifying information or given the coordinates of a point on the terminal side of an angle
- develop and become fluent in the recall of the exact values of the trigonometric functions for special angles
- solve, with and without appropriate technology, real world problems involving applications of trigonometric functions
- graph the six trigonometric functions, identify domain, range, intercepts, period, amplitude, and asymptotes as applicable and use symmetry to determine whether the function is even or odd through appropriate technology when needed
- determine, with and without appropriate technology, the amplitude, period, phase shift, and vertical shift, and sketch the graph of transformations of the trigonometric functions
- identify and graph, with and without appropriate technology, the inverse of trigonometric functions including the restrictions on the domain

Oblique Triangles

- develop and use the Law of Sines and the Law of Cosines to solve oblique triangles and use appropriate technology when needed

- solve real world problems applying the Law of Sines and the Law of Cosines and appropriate technology when needed
- determine the area of an oblique triangle by using an appropriate formula and appropriate technology when needed
- use vectors to solve problems and describe addition of vectors and multiplication of a vector by a scalar, both symbolically and geometrically
- use vectors to model situations defined by magnitude and direction and analyze and solve real world problems by using appropriate technology when needed

Trigonometric Equations and Identities

Students will be able to:

- develop the Pythagorean Identities and use to verify other identities and simplify expressions
- develop and use trigonometric formulas including sum and difference formulas and multiple-angle formulas
- solve trigonometric equations algebraically and graphically and use appropriate technology when needed

Polar Coordinates

Students will be able to:

- convert polar coordinates to rectangular coordinates and rectangular coordinates to polar coordinates
- represent equations given in rectangular coordinates in terms of polar coordinates
- graph polar equations and use appropriate technology when needed
- apply polar coordinates to real world situations and use appropriate technology when needed

FUNCTIONAL MATHEMATICS

Functional Mathematics is intended to build on previous courses in Algebra I, Geometry, and Algebra II (or their equivalents in multi-year integrated programs) and to place emphasis on bringing about a deeper understanding of those mathematical relationships. This course may be completed to satisfy the fourth year of mathematics required for unconditional admission to Arkansas' colleges and universities.

It is recommended that emphasis throughout the course be placed on numerical and graphical representations, modeling from data, reasoning clearly and communicating concepts via writing, speaking, listening, drawing, reading, and integrating technology as a tool for developing a deeper understanding of mathematical structure. Students are expected to use technology, including graphing calculators, computers, and

data-gathering equipment throughout the course. Graphing calculators should be an integral part of all instruction. The statistics strand is incorporated throughout as students create models for a set of data, write an equation for the model, and use it to make predictions or estimates. Ongoing emphasis should be placed on helping students develop study skills and time management that are critical for success in college. The curriculum delivery focus is on student learning. The context in which the mathematical content is developed should be carefully chosen to appeal to students without diminishing the importance and depth of the mathematics.

In addition to lesson quizzes and unit exams, student assessment should include alternative forms of assessment such as oral and written presentations, constructed response items with scoring rubrics, extended projects, and/or student journals and portfolios.

Linear Functions

Students will be able to:

- identify a linear relationship represented by a table, by a graph, and by symbolic forms
- determine the initial condition and the rate of change in real-world situations described by $y=mx+b$
- make inferences and predictions using recursion on the table, inspection on the graph, and algebraic manipulation on the model
- explain, conjecture, summarize, and defend results orally, in writing and through the use of appropriate technology

Exponential Functions

Students will be able to:

- identify exponential growth or decay by creating tables, graphs, and mathematical models
- compare exponential models
- compare and contrast linear and exponential models
- make inferences and prediction using recursion on the table, inspection of the graph, and algebraic manipulation on the model
- develop, with appropriate technology, an algebraic model through the regression process
- develop, with appropriate technology, an algebraic model through the regression process
- explain, conjecture, summarize, and defend results orally, in writing, and through the use of appropriate technology

Mathematical Models

Students will be able to:

- establish connections between tables and graphs and the symbolic form using geometric and algebraic models (quadratic, rational, etc)
- apply, with appropriate technology, matrices to real world problems and decision making
- make inferences and predictions using recursion on the table, inspection of the graph, and algebraic manipulation on the model
- explain, conjecture, summarize, and defend results orally, in writing, and through the use of appropriate technology

Probability and Statistics

Students will be able to:

- formulate questions that can be addressed with data and, with appropriate technology, collect, organize, and display relevant data to answer the questions
- describe and summarize data numerically using central tendency variation, position statistics, and distributions
- use counting methods, permutations, and combinations to evaluate the likelihood of events occurring
- make inferences and predictions using recursion on the table, inspection of the graph, and algebraic manipulation on the model
- explain, conjecture, summarize, and defend results orally, in writing, and through the use of appropriate technology

AP Calculus AB Syllabus

The first objective in teaching AP Calculus is to give the students a strong foundation that will serve them well as they proceed in any future mathematics courses. We want to enable the students to realize that calculus is all around us and is a landmark achievement of humanity that can be enjoyed and appreciated by all. The second objective is for the students to score well on the AP exam. This course is built around the rule of 'four'; every topic is presented geometrically (visually), numerically, abstractly (algebraically), and have a strong emphasis on written communication. In-class work, homework, quizzes, exams and projects use all four components as much as reasonably possible. Communication is important, and the students are encouraged to talk about calculus with other members of the class. To assist in this, we organize the class into three or four person groups. All work is done in groups, except announced quizzes and exams.

Preparation for Calculus

Students will be able to:

- write equations of lines
- compute slope as a rate of change
- graph linear models
- interpret functions and their graphs
- transform functions
- compute domain and range
- understand the unit circle
- fit models to data

Limits and Their Properties

Students will be able to:

- find limits graphically and numerically
- find limits that fail to exist
- understand asymptotic and unbounded behavior
- evaluate limits analytically
- compute continuity and one-sided limits
- use the intermediate value theorem
- compute infinite limits
- find vertical asymptotes using limits

Differentiation

Students will be able to:

- solve the derivative and the tangent line problem
- understand the definition of the derivative
- find the derivative using the limit process
- understand differentiability and continuity
- evaluate derivatives: numerically, graphically, and analytically
- understand basic differentiation rules and rates of change
- use the power rule
- use derivatives of trigonometric functions
- calculate instantaneous vs. average rate of change
- use the product and quotient rules and higher-order derivatives
- understand speed, velocity, and acceleration
- use the chain rule
- use implicit differentiation
- understand the graphical difference between the original function, 1st and 2nd derivatives
- solve problems using related rates

Applications of Differentiation

Students will be able to:

- find extrema on an interval: global/absolute, local/relative
- use Rolle's theorem and the mean value theorem
- find increasing and decreasing functions and use the first derivative test
- use concavity and the second derivative test
- find points of inflection
- find limits at infinity
- find horizontal asymptotes using limits

- sketch curves
- solve optimization problems
- solve differentials

Integration

Students will be able to:

- compute antiderivatives and indefinite integrals
- know basic integration rules
- solve differential equations
- solve area problems
- compute Riemann Sums and Definite Integrals
- use the Fundamental Theorem of Calculus
- use the Second Fundamental Theorem of Calculus
- integrate by substitution
- apply the General Power Rule for Integration
- calculate using change of variables
- do numerical integration
- use the trapezoidal rule

Logarithmic, Exponential, and Other Transcendental Functions

Students will be able to:

- differentiate and integrate using the natural logarithmic function
- use inverse functions
- differentiate and integrate using exponential functions
- use bases other than e
- solve differential equations involving growth and decay
- solve differential equations using separation of variables
- differentiate and integrate inverse trigonometric functions

Applications of Integration

Students will be able to:

- find the area between two curves
- integrate using an accumulation process
- find volume using the disk method
- find volume of a solid with a known cross-section

CIVICS

Civics is the study of United States citizenship and government.

Students shall:

- create a newscast to demonstrate understanding of events that led to the American Revolution
- create a website to demonstrate understanding of how sources were combined to develop the Constitution

- identify principles of the Constitution
- identify amendments in the Bill of Rights and analyze their effects on American citizens
- create a chart to demonstrate knowledge of rights, duties, and responsibilities of US citizens
- identify roles of US citizens in society
- analyze political parties through political cartoons
- develop understanding of the election process and importance of parties through a mock election
- create graphs that represent voter turnout in elections
- demonstrate understanding of bias through use of primary sources
- create a chart to demonstrate understanding of qualifications, job, powers, and leaders of the 3 branches of government
- develop understanding of how a bill becomes a law by passing a mock bill through Congress
- identify jobs of state and local government
- create a book to identify state and local officials and their jobs
- demonstrate knowledge of apportionment through maps
- compare/contrast the criminal, juvenile, and civil legal systems
- demonstrate understanding of court procedure through mock trial
- demonstrate understanding of supply and demand through use of graphs
- analyze the connection of government and economy
- create a budget to demonstrate knowledge of consumer decisions
- read the book The Giver

WORLD HISTORY

World History is the study of the development, achievements, problems, and people of the world from prehistory until the modern era.

Students shall:

- sequence steps leading to development of civilization
- identify characteristics of early civilizations
- analyze contributions made by ancient Greece and Rome
- create a chart to compare/contrast major world religions
- create a pie chart to represent membership in major world religions
- develop a chart to represent the feudal system
- role play characters from the Middle Ages

- use graphs to draw conclusions about decline in trade and Black Death
- identify cause and effect of Renaissance
- identify writings of the Enlightenment as sources for creation of United States Constitution
- identify the United States as birth place of modern democracy
- identify causes and effects of French Revolution
- use graphs to infer effects of Industrial Revolution
- use a map to locate colonial empires
- identify cause and effects of World War I
- create a chart to show connection between World War I military technology and modern military technology
- identify ways in which dictators took and maintained control of European nations after World War I
- analyze World War II
- use primary sources to gain understanding about the Holocaust
- demonstrate understanding of interdependency of all nations in the world

AMERICAN HISTORY

American History is the study of the development of the United States and its people.

Students shall:

- identify the development of the thirteen original colonies
- identify causes and effects of the American Revolution
- identify basic principles of the American Constitution
- analyze the effect of Nationalism
- create a chart to compare and contrast regional differences within the United States
- use a map to identify the expansion of the United States
- create a Civil War newspaper using primary sources
- analyze causes and effects of the Civil War
- evaluate Reconstruction
- create a graph to represent decline of Native American populations
- create graphs to draw conclusions about immigration patterns
- analyze a reform movement
- analyze reasons for Isolationist Policy
- identify causes of United States involvement in World War I
- use primary sources to gain understanding of effects of WWI on American soldiers
- identify causes and effects of the Great Depression

- create a chart to demonstrate the short and long term effects of President Roosevelt's New Deal programs
- identify events, people, and importance of American involvement in World War II
- evaluate the use of atomic weapons by the United States during World War II
- analyze and evaluate the Civil Rights Movement
- create a timeline of United States involvement in Cold War events
- identify limited objectives of the Korean War
- analyze United States involvement in Vietnam War
- create a graph to draw conclusions about United State's military buildup and casualties of Vietnam War
- create a political cartoon to represent an effect of the Vietnam War
- identify modern American domestic and foreign policy
- identify the United States as a world leader

ECONOMICS

Economics is the analysis and description of the allocation of scarce resources for the purpose of fulfilling societies needs and wants.

Students shall:

- compare and contrast basic economic systems and problems
- analyze laws of supply
- analyze laws of demand
- gain information from a supply and demand schedule
- determine market price from a supply and demand graph
- plot supply and demand on a graph
- identify relationship between supply and demand
- identify factors of production, distribution, and consumption
- evaluate the impact of marketing
- create a flow chart to represent want-satisfaction chain
- create a chart to analyze types of businesses and the advantages and disadvantages of each
- evaluate types of, and effects of competition on markets
- identify basic principles of the stock market
- analyze stock market reports
- plot market gains/losses on a graph
- identify lead and lag indicators
- research economic indicators
- make an economic prediction based upon lead indicators
- identify principle of Federal Reserve System

- create a flow chart to demonstrate the life of a check
- identify effects of monetary policy on the economy
- identify principles of the tax system
- identify effects of fiscal policy on economy
- create a flow chart to demonstrate the business cycle
- analyze cause and effects of each phase of the business cycle
- create a personal budget
- use ads to comparison shop
- read articles from Consumer Report to make purchases
- demonstrate knowledge of banking services including forms of savings accounts
- create a long term financial plan
- calculate changes in price caused by inflation
- analyze cause and effects of poverty on the economy
- evaluate past and present problems designed to fight poverty
- demonstrate knowledge of world economic interdependency

SOCIOLOGY

Sociology is a one-semester high school social studies elective course of study, which introduces students to the social systems that are the foundation of society. An emphasis will be placed on culture and socialization, social status, social institutions, and social problems; as well as the effects and influence on behavior.

Students shall

- Describe the development of sociology as a social science.
- Discuss key components of *culture*.
- Examine the effect of diversity and change on a *culture*.
- Examine the importance of norms and values to a *culture*.
- Examine the influence of *culture* on *socialization*.
- Examine the effects of *social status* on human behavior.
- Explore the influence of social groups on behavior.
- Examine social interaction.
- Examine the effects of social institutions on group behavior
- Examine the changing nature of society
- Discuss *deviance*
- Describe criminal behavior and the reaction of society to the behavior
- Examine the effect of race and *ethnicity* on group behavior
- Research the influence of world events on group behavior (e.g., terrorism, disease,

global economy, natural disasters, changes in technology, migration)

BIOLOGY

Biology should investigate the chemistry and role of cells in life processes, genetics, evolution and the diversity of life. Students should learn about the world through the study of behavioral relationships, ecology, and the global impact of ecological issues. Biology should continue to educate the student in the nature of science.

Students shall:

- demonstrate an understanding of the role of chemistry in life processes
- demonstrate an understanding of the structure and function of cells
- demonstrate an understanding of how cells obtain and use energy (energetics)
- demonstrate an understanding of heredity
- investigate the molecular basis of genetics
- examine the development of the theory of biological evolution
- demonstrate an understanding that organisms are diverse
- demonstrate an understanding of ecological and behavioral relationships among organisms
- demonstrate an understanding of the ecological impact of global issues
- demonstrate an understanding that science is a way of knowing
- design and safely conduct a scientific inquiry to solve valid problems
- demonstrate an understanding of current life science theories
- use mathematics, science equipment, and technology as tools to communicate and solve life science problems
- describe the connections between pure and applied science
- describe various life science careers and the training required for the selected career

ENVIRONMENTAL SCIENCE

Environmental science should examine the physical and biological dynamics of Earth. Students should analyze the impact of human activities on the environment. Field studies, as well as the process of collecting and analyzing data, should be an integral part of the course. Instruction and assessment should include both appropriate technology and the safe use of laboratory equipment. Students should be engaged in hands-on laboratory experiences at least 20% of the instructional time.

Students shall:

- understand the physical dynamics of Earth
- understand the biological dynamics of Earth
- understand the impact of human activities on the environment
- use mathematics, science equipment, and technology as tools to communicate and solve environmental science problems
- describe the connections between pure and applied science
- describe the various environmental careers and the training required for the selected career

PHYSICAL SCIENCE

Physical science should begin the study of higher-level physics and chemistry and continue educating the student in the nature of science. A student who masters these Student Learning Expectations should transition smoothly into other science courses. Students should be expected to use suitable mathematics and collect and analyze data. Instruction and assessment should include both appropriate technology and the safe use of laboratory equipment. Students should be engaged in hands-on laboratory experiences at least 20% of the instructional time.

Students shall:

- demonstrate an understanding of matter's composition and structure
- demonstrate an understanding of the role of energy in chemistry
- compare and contrast chemical reactions
- classify organic compounds
- demonstrate an understanding of the role of energy in physics
- demonstrate an understanding of the role of forces in physics
- demonstrate an understanding of wave and particle motion
- demonstrate an understanding of the role of electricity and magnetism in the physical world
- demonstrate an understanding that science is a way of knowing
- design and safely conduct a scientific inquiry to solve valid problems
- demonstrate an understanding of historical trends in physical science
- use mathematics, science equipment, and technology as tools to communicate and solve physical science problems
- describe the connections between pure and applied science

- describe various physical science careers and the training required for the selected career

CHEMISTRY

Chemistry should explore the composition of matter through its properties, its atomic structure, and the manner in which it bonds and reacts with other substances. Students should be expected to use suitable mathematics and collect and analyze data. Instruction and assessment should include both appropriate technology and the safe use of laboratory equipment. Students should be engaged in hands-on laboratory experiences at least 20% of the instructional time.

Students shall:

- understand the historical development of the model of the atom
- understand the structure of the atom
- understand how the arrangement of electrons in atoms relates to the quantum model
- understand the significance of the Periodic Table and its historical development
- name and write formulas for binary and ternary compounds
- explain the changes of matter using its physical and chemical properties
- use atomic mass or experimental data to calculate relationships among elements and compounds
- understand the process of ionic bonding
- understand the process of covalent bonding
- understand the process of metallic bonding
- relate the physical properties as they relate to different types of bonding
- understand the relationship between balanced chemical equations and mole relationships
- understand the mole concept and Avogadro's number
- predict the product(s) based upon the type of chemical reaction
- understand the composition of solutions, their formation and their strengths expressed in various units
- understand the behavior of gas particles as it relates to the kinetic theory
- understand the relationship among temperature, pressure, volume and moles of gas
- apply the stoichiometric mass and volume relationships of gases in chemical reactions

PHYSICS

Physics should ground students in the five traditional areas of Physics (Newtonian

mechanics, thermodynamics, optics, electricity and magnetism, and quantum mechanics) as well as the nature of science. It should provide the knowledge base needed for many college programs. Students should be expected to use higher-level mathematics and collect and analyze data. Instruction and assessment should include both appropriate technology and the safe use of laboratory equipment. Students should be engaged in hands-on laboratory experiences at least 20% of the instructional time.

Students shall:

- understand one-dimensional motion
- understand two-dimensional motion
- understand the dynamics of rotational equilibrium
- understand the relationship between work and energy
- understand the law of conservation of momentum
- understand the concepts of fluid mechanics
- understand the effects of thermal energy on particles and systems
- apply the two laws of thermodynamics
- distinguish between simple harmonic motion and waves
- compare and contrast the law of reflection and the law of refraction
- understand the relationship between electric forces and electric fields
- understand the relationship between electric energy and capacitance
- understand how magnetism relates to induced and alternating currents
- understand the concepts of quantum mechanics as they apply to the atomic spectrum
- understand the process of nuclear decay
- demonstrate an understanding that science is a way of knowing
- safely design and conduct a scientific inquiry to solve valid problems
- demonstrate an understanding of historical trends in physics
- use mathematics, science equipment, and technology as tools to communicate and solve physics problems
- describe the connections between pure and applied science
- describe various physics careers and the training required for the selected career

SPANISH I

All Cushman Spanish students will be able to 1) communicate in the target language through listening, reading, writing, and speaking; 2) acquire knowledge of other cultures and countries; 3) be able to compare and contrast the

target language and culture with their own; and 4) become familiar with the communication in multilingual communities.

Students will be able to:

- communicate with basic social expressions through reading and writing
- use correct pronunciation and interpret the written sound and meaning of Spanish alphabetical symbols
- recognize the basic structure of the language in the present tense with an introduction to the past tense
- ask and answer questions of personal information and everyday functions, and respond to classroom directions and vocabulary
- read and listen for main ideas and/or details and be able to communicate in simple, real life situations
- possess a basic knowledge of history, geography, and culture of the countries of Latin America, Spain and Mexico

SPANISH II

All Cushman Spanish students will be able to 1) communicate in the target language through listening, reading, writing, and speaking; 2) acquire knowledge of other cultures and countries; 3) be able to compare and contrast the target language and culture with their own; and 4) become familiar with the communication in multilingual communities.

Students will be able to:

- communicate with greater depth and complexity in reading, writing, and speaking the Spanish language demonstrating all first year goals
- recognize and use structural patterns of the language in the present and past tense with an introduction to the future tense
- read and listen to authentic text for understanding and comprehension
- function as a tourist on a survival level in the Spanish language
- be familiar with significant historical/cultural events and figures
- reinforce and enhance writing skills through the use of computers and computer software

RESOURCE

Special Education services offered to grades 9-12 by the Cushman School District meet all federal and state guidelines. After analyzing the comprehensive evaluation data of a referral, a committee consisting of a regular education teacher, a special education teacher, the parent, and the student determines if the data

substantiates placement in special education. That committee for those who qualify then develops an Individualized Education Plan (IEP). Resource students are expected to obtain the goals and objectives stated in their Individual Education Plan. These goals and objectives correlate with the Arkansas Educational Frameworks as closely as abilities will allow. Each resource student is placed in his or her least restrictive environment.

LIBRARY/MEDIA

Students will be able to:

- use a card catalog to locate sources
- use computers to search for information
- use a copy machine
- use audiovisual aides in a presentation
- know about specialized reference books and what information is contained in each
- know how to locate information in reference books
- exhibit proficient use of the dictionary (locate and use entry words, locate and use guide words, locate and use pronunciation keys, select appropriate meaning for given words)
- select and read fiction/nonfiction for pleasure
- read and select key information for research

OFFICE MANAGEMENT

Office Management focuses on management and supervision in the office environment. The course covers basic skills such as word processing, records management, and communications as well as decision-making, critical thinking, teamwork, and ethics.

Students will be able to:

- prepare various business documents on the computer, including word processing, spreadsheet, database, and desktop publishing
- complete documents in preparation for entering the job market
- comprehend the importance of setting short-term and long-term career goals
- comprehend and demonstrate the importance of teamwork
- communicate thoughts, ideas, or facts in written form in a clear, concise manner
- use critical thinking skills to address various business problems/situations, including job interviews
- use an electronic calculator/computer numeric keypad
- open and reconcile a checking account

DESKTOP PUBLISHING I

Desktop Publishing I is a one-semester course that combines the versatility of the microcomputer with page design software enabling students to produce materials of near photo-type quality. The course includes page composition, layout, design, editing functions, and a variety of printing options.

Students will be able to:

- understand the differences between publishing with traditional methods and desktop publishing
- demonstrate basic word processing features
- understand and apply the basic design rules and document layout
- identify the parts of a font and character
- choose appropriate styles of fonts
- describe how to align a document
- import, create, and edit a graphic
- explain how to create a flyer, card, letterhead, brochure, newsletter, and business card

DESKTOP PUBLISHING II

Desktop Publishing II is designed to study the process of analyzing information and choosing the appropriate visual signals to communicate the desired message effectively. Students will be able to apply principles to analyze and organize information, set up a design structure, and produce special visual expressions.

Students will be able to:

- use advanced text features such as bullets, leading, kerning, pulling quotes, and hanging indents
- explain and define terms related to graphics
- demonstrate when templates should be used and how to use them effectively
- analyze data, summarize results, and make conclusions to produce documents that communicate messages effectively
- develop a multi-media presentation using desktop publishing software
- demonstrate the proper use of a scanner and digital camera
- understand and use a computer network

COMPUTERIZED BUSINESS APPLICATIONS

Computerized Business Applications is designed to prepare students with an introduction to business applications which is necessary to live and work in a technological society. Emphasis is given to hardware or software, concepts, and business uses of applications. The business applications covered are word processing,

database, spreadsheet, graphics, integrated software, electronic mail, web page design and image processing.

Students will be able to:

- identify hardware components of a computer system
- identify operating system software
- use electronic mail
- explain the information super highway
- create word processing documents
- use spreadsheet software
- use database software
- create electronic presentations
- design web pages

DRIVER EDUCATION

Driver Education is a course designed to teach students how to be responsible drivers. The goals of the course are to teach students 1) that Driver Education involves more than just driving; 2) how to think behind the wheel; 3) how to plan ahead and anticipate the action of other roadway users; and 4) how to control their car so as to minimize risk to themselves and others.

Students will be able to:

- know basic driving skills
- know rules of the road
- know how to respond to an emergency
- know common driving laws
- assess and manage risks
- know about bad weather conditions and driving
- know about insurance for a teenage driver
- know basic mechanical components to a vehicle
- know how to perform basic maintenance to a vehicle such as changing a tire, oil filters, etc.

HEALTH

Cushman High School students will 1) know the physical, social, and mental aspects of life; 2) be able to develop a nutritional diet; 3) develop a responsible fitness level throughout adulthood; 4) develop social skills and positive relationships through positive self-esteem, time management, coping skills, and the ability to understand others; 5) develop life-saving skills; 6) understand the relationships between decisions and consequences; and 7) understand the importance of establishing a balance of the physical and mental parts of the body.

Students will be able to:

- develop a nutritional diet
- develop and understand social learning skills
- develop an understanding of various personal health and safety measures
- demonstrate CPR and first aid life saving practices
- demonstrate skills in a family environment
- analyze misuse and abuse of substances
- analyze the importance of community involvement
- develop goals with knowledge to achieve goals

PHYSICAL EDUCATION

At Cushman High School, Physical Education is based on the concept of developing the well-rounded student. Students will be able to 1) develop a physical fitness program; 2) demonstrate a competency in basic motor skills; 3) exhibit a health-enhancing level of physical fitness; 4) demonstrate responsible personal and social behavioral skills in activities; 5) show respect for differences among people; and 6) demonstrate the ability to have a prolonged level of physical fitness.

Students will be able to:

- apply physical fitness to life
- demonstrate knowledge and skill of various activities (basketball, soccer, volleyball, etc.)
- develop a physical fitness plan throughout adulthood
- demonstrate the ability to participate in team and individual sports
- demonstrate basic motor skills and movement
- apply social skills to all activities
- access different levels of physical fitness

ART I

This class is a further investigation of the visual arts to reinforce and continue previously obtained knowledge.

Students will:

- analyze, evaluate, and defend the content, subject matter, symbols, and images used in their own art and art of others
- critique works in terms of history, culture, and aesthetics
- prepare and present their own work for exhibit
- produce a portfolio which reflects their visual experiences and shows self-growth in their work
- relate their own style, intent, and/or content to other artists and cultures

- explore and create works using a wide variety of media, processes, tools, and techniques
- create works that evidence thinking, awareness of the elements of art and principles of design
- generate and communicate ideas which show multiple solutions to specific visual problems

STUDIO ART DRAWING

This is an advanced art course (1 semester) to explore various media, techniques, and levels in drawing. Students must have completed Art I with a “C” or better to enroll in this course.

Students will be able to:

- use media such as:
 - graphite pencil
 - pen and ink
 - watercolor
 - charcoal
 - conte crayon
 - color pencil
 - computers
 - pastels
 - paint
 - scratch board
 - ink block printing
- focus on the use of the elements and principles of art and design to:
 - explore the organization of space
 - possible compositions
 - originality and spontaneity
- explore various drawing genre such as:
 - anatomy
 - still lifes
 - landscape
 - portraits
 - environments (real and surreal)
- produce preliminary sketches and use sketchbooks daily
- produce works to develop a portfolio
- use works from portfolio for exhibition

STUDIO ART CERAMICS

Studio Art Ceramics is an advanced Art course to explore the fundamentals of working in the clay medium. Students will progress from the fundamentals to more challenging projects by building upon and expanding the knowledge and skills they have already attained from Art I. (Elements of Art and Principles of Design.) The course will include a study on the types of clay available, a brief history of ceramics, clay preparation and safety, glazes, glazing techniques, kiln operation, and ceramics as a

career. The course will begin with hand building techniques, progress to wheel thrown pieces and eventually include putting the two techniques together. The student must be self-motivated and willing to use their studio time effectively, efficiently and safely. All students will be required to develop work in a sketchbook/journal and produce a body of works for an end of course Art Show. Students will photograph their own work and keep continuing a digital portfolio.

ART II

This is an advanced art course designed for students who have completed Art I with a grade of “C” or better and have the desire to continue their learning in art.

Students will be able to:

- challenge their imaginative abilities
- rely less on copying
- develop knowledge and skills to enhance their own creativity and self-expression
- take responsibility for planning, pacing, and completing each work
- engage in independent study
- use their sketchbooks on a weekly basis for aid in planning their work
- maintain a portfolio of their work which can be used for exhibition
- collaborate with others to create products relevant to visual art experiences
- use design elements and principles and aesthetic concerns when producing works
- use a wide variety of media, processes, and techniques

ADVANCED MUSIC APPRECIATION

This course is offered to high school 10th-12th grade students. Class size is limited and admission to the course is based on teacher’s approval. Emphasis will be placed in individual differences coming together for a common goal through music.

Students will be able to:

- RECOGNIZE AND READ MUSIC in treble and bass clef.
- Learn to play GUITAR at an advanced, beginner level.
- Learn to play PIANO at an advanced, beginner level.
- Incorporate music terminology into discussions about current and historical music.
- Use computers and other means to COMPOSE music for piano and various instruments.

- Recognize musical examples from various period of history.
- Explain the role of music and effect on society and culture.
- Determine factors that influence musicians with historical time frames.
- Identify ways to transfer musical knowledge and skills to lifelong career, community and leisure activities.
- Learn basic and advanced music theory including ear training and chord progressions.

VOCAL MUSIC

This class is offered to students in seventh through twelfth grade.

Students will be able to:

- Have the opportunity to participate in a large performance/observance TRIP every other year starting in 2004. The trip will be a destination such as BRANSON, KANSAS CITY, MEMPHIS, or ST. LOUIS and will be dependent upon current personnel and fundraising efforts.
- Have multiple performances throughout the school year with NO SOLO work required.
- Daily sing many DIFFERENT TYPES OF MUSIC including rock, pop, sacred and secular.
- Demonstrate correct singing and musical concepts/fundamentals.
- COMPOSE melodies and accompaniments for choir using various techniques including PIANO and COMPUTER.
- Learn to ARRANGE songs/parts for other voices and/or instruments.
- Exhibit SELF-DISCIPLINE AND TEAMWORK in daily rehearsals.
- Model appropriate ETIQUETTE as both a performer and an observer.
- Evaluate performances by other groups through trips out of town.
- Share in a POSITIVE LEARNING EXPERIENCE by incorporating exercises for self-esteem, cooperation and teamwork, confidence and service to community.
- Be encouraged to audition for HONOR GROUPS and participate in extra events available throughout the year. Past choir members have been able to attend the ALL-STATE CHOIR convention for three days during the school year, awarded COLLEGE SCHOLARSHIPS based on ability and selected for various honor groups throughout the nation. Vocal scholarships are available for college students regardless of their chosen major.

INSTRUMENTAL MUSIC

This course is open to all students in grades seven through twelve. It is required that students provide their own instrument (unless special arrangements have been made IN ADVANCE of signing up for the class). Instruments may be obtained by renting them through a music dealer (list supplied by teacher) or buying your own instrument. Band instruments include flute, clarinet, saxophone, French horn, trumpet, trombone, baritone, tuba or percussion only. Special private lessons will be required for all beginners during the first eight weeks for 30 minutes per week. These will be provided free of charge by the teacher or an advanced student either during the school day or before or after school.

Students will be able to:

- Have the opportunity to participate in a large performance/observance TRIP every other year starting in 2004. The trip will be a destination such as BRANSON, KANSAS CITY, MEMPHIS, or ST. LOUIS and will be dependent upon current personnel and fundraising efforts.
- Have multiple public performances throughout the year with NO SOLO performances required.
- Play many DIFFERENT TYPES of music including rock, pop, sacred and specific band arrangements.
- Demonstrate correct playing and musical concepts/fundamentals through daily playing.
- Learn BASIC GUITAR AND PIANO TECHNIQUES as time, equipment, and space allow.
- TRANSCOPE band music for various instruments.
- COMPOSE melodies and accompaniments for the group.
- Learn techniques and concepts for marching band DRILL WRITING.
- Exhibit SELF-DISCIPLINE AND TEAMWORK in daily rehearsals.
- Model appropriate ETIQUETTE as both a performer and an observer.
- Evaluate performances by other groups through TRIPS out of town.
- Share in a POSITIVE LEARNING EXPERIENCE by incorporating exercises for self-esteem, cooperation and teamwork, confidence and service to the community.
- Be encouraged to audition for HONOR GROUPS and participate in extra events throughout the year. Instrumental music COLLEGE SCHOLARSHIPS are available for students regardless of their chosen major.

FAMILY AND CONSUMER SCIENCES

Students will develop skills needed to succeed in life. These may include parenting skills, work and family issues, consumer skills, nutrition skills, and home management skills. These will be skills that should improve the quality of life.

Child Development

Students will be able to:

- understand the stages of growth and development
- help children achieve their full potential physically, intellectually, emotionally, and socially
- understand pregnancy and prenatal development
- understand rights and responsibilities of parents and children
- make good decisions in the selection of child-care services
- understand safety guidelines for children of different ages

Child Care Guidance Management and Services

The student will study the following:

- planning and management of a child-care program
- child development
- guiding children's behavior
- health and safety
- caring for children with special needs
- the child care facility
- pre-employment laboratory experience
- employability skills

Clothing Management

Students will be able to:

- understand factors influencing textiles and clothing choices
- understand principles and elements of design
- assess, purchase, and maintain a wardrobe
- apply advanced construction techniques

Food and Nutrition

Students will be able to:

- understand ways to meet personal and family nutritional needs
- be a wise food consumer
- understand proper storage and handling techniques of food
- prepare foods using different cooking methods
- plan, serve, and eat meals

Housing and Home Furnishing

Students will be able to:

- recognize changing housing needs at various stages of the life cycle
- understand different types of houses, furnishings, and equipment
- compare quality in housing and home furnishings
- understand basic structural, lighting, and design features and their purposes in housing construction
- understand maintenance, safety, and security measures in a home

Managing Resources

Students will be able to:

- make good personal decisions
- manage resources to meet their needs and goals
- utilize resources needed in managing family life in times of crises and change during an individual's life
- manage financial and investment decisions
- be a wise consumer
- manage their time

Family Dynamics

Students will be able to:

- understand factors that influence marital success
- communicate more effectively in family relationships
- create an environment to achieve parenting goals
- blend employment with family life
- cope with stress, problems, and crises
- manage time, resources, and finances
- be a responsible citizen

Family and Consumer Science

Students will be able to gain:

- knowledge of Family, Career and Community Leaders of America
- skills needed to develop a healthy lifestyle
- skills needed to build and maintain positive relationships
- knowledge of design, maintenance, and care of housing
- knowledge of how to select, maintain, and care for a wardrobe
- knowledge of factors that relate to a child's wellness and safety
- knowledge of how to meet personal and family nutritional needs
- consumer and home management skills

Parenting

Students will be able to:

- make an informed parenthood decision
- help children achieve their full potential physically, intellectually, emotionally, and socially

- be positive role models and responsible parents
- provide guidance and strengthen values and moral behavior of children

Nutrition and Wellness

Students will study the following:

- the interaction of nutrition, foods, sports and exercise for lifelong fitness and wellbeing of individuals and families
- nutrition as it relates to wellness, sports nutrition and food choices throughout the life span
- eating and exercise habits that help students make wise decisions about food choices for active living and weight management
- current technology used to encourage students to be active learners and develop critical thinking skills to evaluate relevant nutrition and wellness information

AGRICULTURAL SCIENCE AND TECHNOLOGY

This course is designed for ninth grade students who are taking Agriculture for the first time and students in higher grades who have not taken Agriculture.

The students will study various segments of agriculture which include:

- FFA
- leadership
- record keeping
- animal science
- plant science
- soil science
- mechanics

AGRICULTURE METALS I & II

This two semester course covers safety and technical information in agricultural metal fabrication with ample opportunity for students to gain hands-on skills in the laboratory. Safety and proper procedures and practices will be emphasized in cold and sheet metal, soldering, tool fitting, gas and arc welding.

Students will be able to:

- develop abilities in agricultural education
- be able to apply agricultural education to a variety of purposes
- be employable
- be able to use tools, materials, and equipment in a proper, safe, and appropriate manner
- possess a general knowledge and understanding of the FFA
- possess a general knowledge of metals

- understand the importance and fundamentals of cold metal work
- understand the importance and fundamentals of sheet metal work
- understand the importance and fundamentals of arc welding
- understand the importance and fundamentals of oxyfuel procedures

AGRICULTURAL MECHANICS I & II

This course is designed for tenth, eleventh, and twelfth grade students who have taken Agricultural Science and Technology.

Students will study:

- safety precautions in shop work or mechanics
- arc welding
- gas welding and cutting
- cold metal
- sheet metal and soldering
- tool fitting
- small engines
- sketching and drawing
- surveying
- concrete
- painting and finishing
- woodworking – hand tools
- woodworking – power tools
- electricity

(Since there are fourteen of these areas, the studies will be brief. All students may not cover all areas during the course.)

AGRICULTURAL STRUCTURES I & II

This is two semesters for each course. The purpose is to teach the students the principles for planning, calculations of materials, designing, and building structures as to use, size, types, shapes, and materials. Emphasis will be placed on the safe and correct use of hand and power tools in the laboratory.

BUILDING

Students will study:

- structures
- safety
- hand and power tools
- planning, drawing, and reading blueprints
- basic carpentry
- basic plumbing
- basic concrete and masonry
- painting

ELECTRICITY

Students will study various segments of electricity dealing mostly with house wiring.

Students will study:

- actual wiring
- equipment and tool identification
- diagrams
- floor plans
- electric motors

AGRICULTURAL LEADERSHIP AND COMMUNICATION

Students will develop abilities in:

- parliamentary procedures
- public speaking
- organization and management
- delegation
- business etiquette
- conflict resolution
- cooperation and teamwork

INTRODUCTION TO HORTICULTURE

The goal of this course is to study the principles of horticulture and horticultural crops, including the biology, chemistry, and physics of plant classification, identification, structure, physiology, environmental factors, meteorology, propagation, and climatology.

Students will be able to:

- develop abilities in Agricultural Education
- be able to apply agriculture education to a variety of purposes
- be employable
- possess a general knowledge of the horticulture industry
- have a basic understanding of plant science
- understand the proper methods and techniques for plant propagation
- understand how a greenhouse works
- understand the importance of integrated pest control
- understand principles of container grown plants
- understand principles of using plants in the landscape
- understand how to establish and maintain a lawn
- understand the basic principles of a vegetable garden
- understand the basic principles of a small fruit garden

ANIMAL SCIENCE

This course is designed to teach the principles of animal nutrition, physiology, feeds and feeding, health, genetics, breeding, reproduction, care,

management, identification, selection, and marketing of the various agricultural animals.

Students will be able to:

- possess a general knowledge of the FFA
- develop a general knowledge of livestock feeding and nutrition
- develop a knowledge of animal breeding and reproduction
- develop a general knowledge of beef cattle, dairy cattle, swine, horses, poultry, sheep and goats
- develop a general knowledge of diseases and parasites affecting the livestock industry

BIOLOGICAL ANIMAL SCIENCE

This course is designed to take a scientific approach to agriculture and is designed for the upper-level student. Students will learn about experiments and research and the progress being made in genetic engineering.

Students will be able to:

- possess a general knowledge of the FFA
- understand how the biological sciences affects our lives
- understand the methods for conducting research
- understand basic genetics and heritability
- understand fundamentals of animal reproduction
- understand fundamentals of digestion and nutrition
- understand basic principles of animal health
- understand the importance and fundamentals of food preservation

GIFTED AND TALENTED

The Gifted and Talented Program at Cushman School promotes higher order thinking skills, independent work, and good decision-making skills. Students are encouraged to be self-motivated and to use creative and inventive thinking processes.

Students will be able to:

- have high standards
- write a detailed research paper
- present information on a professional level
- justify decisions made
- read body language and verbal clues
- assess self-strengths and interests
- investigate varied career options
- explore personal goals
- display a sense of creative self-destiny
- be a good decision maker

ATHLETICS

It as a primary concern at Cushman High School that we develop the well-rounded student athlete. The student athlete at CHS is required to meet all academic requirements and guidelines as required by the Arkansas Activities Association.

Students will be able to:

- develop leadership skills
- cooperate
- develop discipline and dedication
- respect others
- develop social skills
- exhibit sportsmanship
- develop physical fitness
- accept defeat as well as success

ADVANCED PLACEMENT

Students in grades 9-12 will be given the opportunity to participate in AP courses in English, Math, History and Science. To enroll in an AP class is to enter a world of intense discussion and thought, a class where students are given intellectual responsibility to think for themselves. Students in AP classes learn to reason, analyze, and understand.