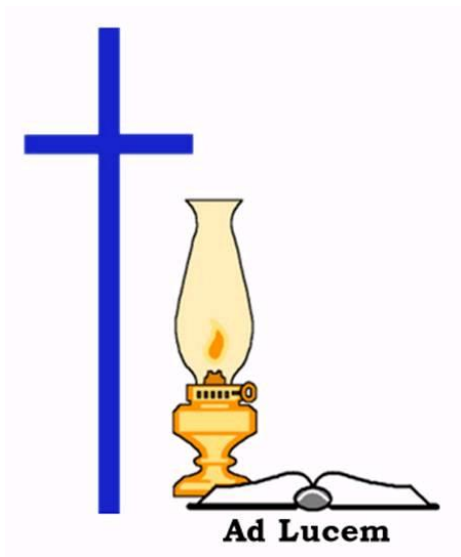


GSLs
Academy of Fine Arts and Sciences
Fifth Grade Curriculum



MATH

Numbers and Operations: Whole Numbers

- Divide fluently up to four-digit by two-digit numbers with and without remainders and check using multiplication.
- Write and solve word problems using multiplication and division.
- Multiply multiple-digit numbers by two-digit numbers.
- Find prime factorization of numbers between 1 and 50.
- Identify integers on a number line.
- Express real-life examples with integers.

Numbers and Operations: Fractions, Decimals, Percentages, and Ratios

- Understand and write percentages as parts out of 100.
- Understand fractions as a statement of division ($2 \div 3 = 2/3$).
- Find common denominators.
- Write, estimate, and solve problems with addition and subtraction of fractions using knowledge of equivalent fractions.
- Solve for the unknown (variable) in equations, e.g., $1/4 + y = 7/12$.
- Multiply simple fractions.
- Divide a fraction by a whole number and a whole number by a fraction.
- Add and subtract numbers with unlike denominators.
- Convert fractions to decimals and decimals to fractions.
- Compare ratios.

Measurement (customary and metric)

- Convert measurements using a given system.
- Recognize equivalents and metric conversions.
- Understand, use, and compare the area/area formulas of given figures.
- Build solids and find/state their volumes.
- Solve applied problems using measurement.
- Know units of measure of volume.
- Compare cubic measurements.
- Recognize linear, square and cubic units.

Geometry

- Identify, name, and measure angles.
- Solve applied problems using angles and their measures.
- Find unknown angles using properties of geometric shapes.
- Calculate perimeter, area, volume and surface area.

Data and Probability

- Construct, read, and interpret line graphs.
- Solve problems using line graphs.
- Find and interpret the mean and mode.
- Solve problems involving mean.

LANGUAGE ARTS

Reading

Word Study

- Explain when to use and apply word structure, sentence structure, and prediction to aid in decoding words and understanding meaning of words encountered in text.
- Use strategies to automatically read frequently encountered words and decide on the meaning of words using affixes and syllabication.
- Know the meanings of words encountered frequently in grade level reading and oral language contexts.
- Fluently read beginning grade level text and increasingly demanding text as the year proceeds.

Narrative Text (Fiction)

- Analyze how characters and communities reflect life in positive and negative ways in classic and contemporary literature recognized for quality and literary merit.
- Analyze elements and style of narrative genres including historical fiction, tall tales, and science fiction.
- Analyze character traits and setting.
- Explain how authors use literary devices to develop characters, themes, plots, heroes and villains, and narrator across a variety of texts

Informational Text (Non-fiction)

Name and describe different types of informational text.

- Identify and describe informational text patterns such as compare/contrast, position/support, and problem/solution.
- Explain how authors and illustrators use features like time lines, graphs, charts, diagrams, indices, introductions, summaries, and conclusions to enhance understanding of supporting and key ideas.

Comprehension

- Connect personal knowledge, experience and understanding of the world to themes and perspectives in text through oral and written responses.
- Retell and summarize grade level appropriate narrative and informational text.
- Analyze oral and written global themes, universal truths, themes and principles within and across text to create a deeper understanding.

Reading Attitude

- Be excited about reading and learning how to read.
- Choose to read and write during free time in school and at home.

Writing

Writing Genre

- Write a narrative piece using time period and setting to enhance the plot depicting conflicts and resolutions.
- Write poetry based on reading a variety of grade level poetry.
- Write a position piece to demonstrate understanding of central ideas and supporting details using multiple headings and subheadings.
- Produce and present a research project with a teacher-approved topic, narrowed focus question, and hypothesis. The student should use a variety of resources to gather and organize information.

Writing Process

- Think about the audience and the purpose for writing, as well as replicate authors' styles and patterns.
- Use a variety of drafting strategies for both narrative and informational text in order to generate, sequence, and structure ideas.
- Clearly communicate ideas and information in written text with connected, coherent, mechanically sound paragraphs.
- Constructively and specifically respond orally to the writing of others by identifying sections of the text to improve organization.
- Write five paragraphs, each containing a main idea and details.
- Independently and collaboratively edit writing using grade level checklists.

- Exhibit individual style and voice to enhance the written message.

Grammar and Usage

- Identify and use compound subjects and predicates, proper nouns, articles, conjunctions, hyphens in compound and number words, commas, and colons to separate time and introduce a list.

Spelling

- Correctly spell frequently encountered words and use structural cues and environmental sources for less frequently encountered words.

Handwriting

- Write neatly and legibly.

Writing Attitude

- Be enthusiastic to write and learning to write.

Speaking

Conventions

- Give a speech speaking clearly, with expression and loud enough to be heard.
- Make presentations using Standard English.
- Use irregular verbs correctly.
- Adjust their use of language to communicate effectively with a variety of audiences and for different purposes.
- Use varying modulation, volume, and pace of speech to indicate emotions, create excitement, and emphasize meaning when presenting spoken informational and narrative text.
- Be aware that language differs from early American history to current day America as a function of linguistic and cultural group membership.

SCIENCE

Science Processes:

- ◆ Make purposeful observation of the natural world using the appropriate senses
- ◆ Generate questions based on observations.
- ◆ Plan and conduct simple and fair investigations
- ◆ Manipulate simple tools that aid observation and data collection (e.g., hand lens, balance, ruler, meter stick, measuring cup, thermometer, spring scale, stop watch/timer, graduated cylinder/beaker).
- ◆ Make accurate measurements with appropriate units (e.g., millimeters, centimeters, meters, milliliters, liters, Celsius, grams, seconds, minutes) for the measurement tool.
- ◆ Construct simple charts and graphs from data and observations.
- ◆ Summarize information from charts and graphs to answer scientific questions
- ◆ Share ideas about science through purposeful conversation and investigations.
- ◆ Communicate and present findings of observations and investigations
- ◆ Develop research strategies and skills for information gathering and problem solving.
- ◆ Compare and contrast sets of data from multiple trials of a science investigation to explain reasons for differences.
- ◆ Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities.
- ◆ Use data/samples as evidence to separate fact from opinion
- ◆ Use evidence when communicating scientific ideas.
- ◆ Identify technology used in everyday life.
- ◆ Describe the effect humans and other organisms have on the balance of the natural world
- ◆ Describe how people have contributed to science throughout history and across cultures.

Life Science:

- ◆ Describe the physical characteristics and behavioral traits of organisms that help them survive in their environment.
- ◆ Explore how heredity, genetics, and the environment influence and organism's characteristics.
- ◆ Compare populations in a food web and their interrelationships.
- ◆ Describe ways in which humans alter the environment.

Physical Science:

- ◆ Understand contact, non-contact, balanced, and unbalanced forces.
- ◆ Identify and demonstrate kinetic and potential energy.
- ◆ Describe motion in two dimensions.

Earth Science:

- ◆ Analyze the relationship of environmental change and catastrophic
- ◆ Understand that the sun is the major source of energy and relates to weather, climate, seasons and water cycle

SOCIAL STUDIES

Theme: United States History Early Inhabitants to Constitution

Era 1 Beginnings to 1620

- ◆ Describe the life of peoples living in North America before European exploration.
- ◆ Identify the causes and consequences of European exploration and colonization.
- ◆ Describe the lives of peoples living in Western Africa prior to the 16th century.
- ◆ Describe the environmental, political, and cultural consequences of the interactions among European, African, and American Indian people in the late 15th through the 17th century.

Era 2 Colonization and Settlement

- ◆ Compare the regional settlement patterns and describe significant developments in Southern, New England, and the mid-Atlantic colonies.
- ◆ Analyze the impact of the slave system in the Americas and its impact on the life of Africans.
- ◆ Distinguish among, and explain the reasons for, regional differences in colonial America.

Era 3 Revolution and the New Nation

- ◆ Identify the major political, economic, and ideological reasons for the American Revolution.
- ◆ Explain the multi-faceted nature of the American Revolution and its consequences.
- ◆ Explain some of the challenges faced by the new nation under the Articles of Confederation, and analyze development of the Constitution as a new plan for governing.

Public Discourse, Decision Making, and Citizen Involvement

- ◆ Clearly state a problem as a public policy issue, analyze various perspectives and generate and evaluate possible alternative resolutions
- ◆ Participate in projects to help or inform others

ART

The visual arts curriculum is based on the National, Michigan, and Lake Orion standards and builds a foundation for creative thinking, problem solving, and lifelong learning in the arts and other disciplines. In art class, children learn to convey ideas, feelings, and emotions by creating their own images. They explore the historical and cultural messages wrapped up in works of art. They also reflect on the meaning of what they see in art. Students learn to express their opinions and show respect for their own ideas and creations and for those of others. They explore a variety of media, techniques, and processes in the broad categories of painting, drawing, mixed media, and sculpture. They also learn the safe use and care of art materials and tools. Looking at, thinking about, and making art are presented as enjoyable and integral parts of learning about art. Students develop a better understanding of beliefs and ideas that are different from their own.

At the fifth grade level, students learn to apply and refine skills developed in earlier grades. They learn to identify and analyze more subtle and complex visual relationships such as how light affects our perception of colors, textures, and forms and how we perceive space and distance. They continue to perceive and identify underlying structures such as proportions, visual rhythms, and types of balance in the environment. Students continue to create art in order to express what they see, know, feel, and imagine. Skills in using media continue to be developed. Multistep techniques are introduced in two and three - dimensional media. Lessons emphasize efficient yet expressive uses of media.

MUSIC

Purpose:

- ◆ Foster a lifelong love and appreciation of music
- ◆ Understand and use the elements of music, including listening, singing, and movement
- ◆ Develop skills in understanding and interpreting musical symbols and instruments
- ◆ Develop an understanding and appreciation of music from diverse genres, cultures, and periods in history

Objectives First through Sixth: Skills are introduced, developed, reinforced, and refined as students proceed through the grades

- ◆ Sing, alone and in a group, a varied repertoire of music
- ◆ Perform high and low pitches by singing
- ◆ Echo and sing short rhythms and melodic patterns
- ◆ Sing with appropriate diction, breathing, and posture
- ◆ Sing expressively with appropriate dynamics, phrasing, and interpretation
- ◆ Sing music written in two or three parts, rounds, and partner songs
- ◆ Develop a familiarity with a variety of composers and styles of music
- ◆ Recognize families of instruments and identify the sounds of a variety of instruments
- ◆ Play simple rhythm instruments and maintain a steady tempo
- ◆ Know standard symbols used to notate meter, rhythm, pitch, and dynamics in simple patterns
- ◆ Recognize whole, half, dotted half, quarter, and eighth notes and rests
- ◆ Begin to use appropriate terminology to explain music, music notation, instruments and voices, and music performances
- ◆ Respond through purposeful movement, such as swaying, skipping, and dramatic play, to selected music
- ◆ Understand the relationship between music, history, and culture
- ◆ Identify characteristics of music from various historical periods and cultures
- ◆ Know appropriate audience behavior for the context and style of music performed

INTERMEDIATE BAND

Fifth Grade Band is an intermediate instrumental music class. Students will be expected to have an instrument to play that is in good working condition. Instruction will continue with the basics, including instrument assembly and maintenance. Music fundamentals will be taught in more depth including tone production, posture, breath control, note and rhythm reading, and musical terms. There are several required performances during the year.

TECHNOLOGY

The GSLs Technology Curriculum is based on the Michigan Educational Technology Standards for Students (METS). These standards are embedded in our curriculum and are introduced, reinforced, or mastered by students throughout their elementary educational experience. GSLs educators use the technology standards as guidelines when integrating technology into the curriculum. To be effective, technology skills are taught in conjunction with subject area benchmarks in every discipline across the curriculum and result in a technologically literate individual.

- ◆ Students create a PowerPoint presentation timed with a musical composition
- ◆ Students learn the basic formulas on Microsoft Excel

- ◆ Students began to create a school newspaper using Microsoft Publisher

Introduction to Robotics

Students will learn to build a virtual robot layout, and program a robot task using a 3D Virtual Robot Simulation Program. Simple CAD modeling will introduce the idea of parametric modeling using geometric primitives such as block, cylinder, cone and sphere. Students will learn to measure distances and angles. Cartesian coordinates and speed will be introduced. Student will learn to write a robot program. By course end, students will be able to identify classes of industrial robots and name typical applications. The course is designed to compliment the math and science curriculums.

PHYSICAL EDUCATION

Below is a brief overview of the Kindergarten through fifth grade physical education curriculum:

- ◆ Understand physical activity as an opportunity for enjoyment, fitness, challenge, self-expression, and social interaction
- ◆ Develop skills and motivation to maintain optimal fitness for work and leisure
- ◆ Develop a positive and accurate self-image, realizing personal capabilities and potential
- ◆ Develop fundamental locomotor skills, such as running, hopping, skipping, sliding, and leaping
- ◆ Develop fundamental object control skills, such as bouncing, catching, kicking, throwing, and striking
- ◆ Demonstrate nonlocomotor and body control skills, such as balancing, stretching, twisting, rolling, lifting, and lowering
- ◆ Demonstrate fundamental rhythmical skills at various speeds, directions, and levels
- ◆ Demonstrate selected combinations of locomotor, object control, nonlocomotor and body control, and rhythmical skills, such as running and catching, dribbling and shooting, and catching and throwing
- ◆ Apply the concepts of time, space, direction, and force to movement
- ◆ Explain and apply the essential steps in learning motor skills
- ◆ Understand the vocabulary of physical activity
- ◆ Describe the beneficial effects of physical activity and well being
- ◆ Understand the value of maintaining healthy levels of cardiovascular endurance
- ◆ Understand the value of improving muscular strength and endurance and developing healthy levels of flexibility of selected body joints
- ◆ Display knowledge of the concepts of teamwork
- ◆ Apply appropriate rules and strategies when participating in games and sports
- ◆ Demonstrate responsible personable and social behavior in a physical activity context

RELIGION

Our purpose at GSLS is to help people know, love and follow Jesus, the Good Shepherd, and to grow His flock. To assist in this, GSLS uses the Voyages curriculum from Concordia Publishing House. Voyages is a Christ-centered curriculum giving students optimal opportunity to grow in their relationship of faith and life with God.

- ◆ Introduce students to the stories of the Bible.
- ◆ Apply the lessons to daily life to form the moral and spiritual life of each student.
- ◆ Provide a foundation of faith and knowledge so students will know sound Biblical doctrine.
- ◆ Memorization of weekly scripture passages, which are age-appropriate and help the student grow in faith.
- ◆ Foster a life-long love and appreciation for God's Word.