

Frelinghuysen Middle School

Grade 8

Course Synopsis



MATHEMATICS

Connected Mathematics is a complete middle school curriculum. Eighth grade students in his course study the following texts: *Filling and Wrapping*; *Hubcaps, Kaleidoscopes and Mirrors*; *Clever counting*; *Moving Straight Ahead and Samples and Populations* Number sense, geometry and measurement, statistics and probability and algebraic reasoning concepts are addressed through appealing and engaging problems.

Goals: 1) To demonstrate an understanding of 3-D measurements (volume and surface area, 2) To learn and perform geometric transformations including translations, rotations, reflections and coordinate plane, 3) To comprehend several strategies for finding all possible combinations and permutations, 4) To identify and graph linear relationships, 5) To compare and communicate data and statistics.

ALGEBRA

The grade 8 algebra honors program introduces students to the concepts of algebra in a college prep program. The scope expands students mathematical knowledge through a variety of activities that include reasoning, problem solving and communication.

Goals: 1) To simplify expressions involving more than one operation, 2) To substitute values for variables in order to evaluate algebraic expressions, 3) To comprehend the mechanics of simplifying expressions, including those containing one or more enclosures, 4) To identify the properties of integers, including negative numbers, and perform accurately the basic operations involving them, 5) To solve several types of equations including simple systems of linear equations, those con-

taining fractions and/or enclosures as well as quadratics, 6) To show proficiency in writing English phrases in mathematical terms and be able to solve word problems of many types, 7) To simplify products and powers and evaluate algebraic expressions containing them, 8) To demonstrate how to perform the four basic operations on polynomials, including the multiplication at sight of certain special products, 9) To show mastery of factoring skills and be able to identify the need for them in specific algebraic situations, 10) To show mastery in solving algebraic fractions, 11) To demonstrate an understanding of Cartesian coordinates and their use in graphing a straight line and solving systems of linear equations graphically, 12) To be able to obtain and use the slope of a line and write the equation of a line given certain conditions.

LANGUAGE ARTS

Language Arts 8 is the final step in the middle school language arts program, in which students are presented with the opportunity to experience world class literature across several genre. Emphasis is placed on appreciating each work as an extension of the author's philosophy and culture and encouraging students to recognize their own reading tastes and their unique style and voice in their own writing. Texts are arranged thematically and are grouped around essential questions or issues important to middle school students. Vocabulary and writing instruction are linked to topics and issues arising from reading texts and encourage students to address all aspects of the writing process.

Goals: 1) To comprehend texts across a broad sampling as both readers and writers, 2) To identify and expand knowledge of literary elements, 3) To identify and compare themes across multiple texts, 4)

To recognize, appreciate and manipulate literary devices and figurative language, 5) To read for a variety of purposes, and recognize and employ a variety of purposes for writing, 6) To utilize a variety of pre-writing and drafting strategies for writing personal narratives, informational essays, and persuasive pieces, 7) To enhance created texts through revision and editing for spelling, usage, and punctuation, 8) To develop and exercise higher order thinking skills in evaluating texts, 9) To encourage a love of reading and writing as a learning tool as well as for entertainment, 10) To encourage life-long interest in all of the language arts while gaining insight into the world around them.

SOCIAL STUDIES

The students will study the ancient world from the early civilizations to the Renaissance. Students will explore such topics as the empires of the Ancient World, the High Middle Ages, the Byzantine Empire and Russia and the spread of civilizations in East Asia. Finally, the journey will culminate in early modern times, focusing on the Renaissance and Reformation. The curriculum is designed to align with the New Jersey Core Curriculum Standards.

Goals: 1) To read actively and study ancient world cultures, 2) To analyze information using critical reading skills, 3) To develop and reinforce writing skills, 4) To expand study and research skills, 5) To gain an appreciation of ourselves and others through the study of history.

SCIENCE

This course is designed to provide an opportunity for students to acquire the skills, knowledge, and attitudes that will enable them to become scientifically literate citizens. The units of study will include: "Physical Properties of Matter", "Heat and the Kinetic Theory of the States of Matter", "The Atomic Model", "Elements and the Periodic Table", "Compounds and Chemical Reactions", "Mixtures, and Force" and "Motion".

Goals: 1) To use a constructivist approach in learning content, 2) To use the scientific method in solving problems, 3) To communicate information verbally and in writing, 4) To meet and exceed Grade Eight Proficiency Assessment (GEPA) skills and information, 5) To prepare for the next grade level of science education.

ENGLISH FOR BILINGUAL STUDENTS

This course is designed for the 8th grade student who is still learning English, but who has some facility in the language. It parallels the mainstream 8th grade language arts course.

Goals: 1) To study the five elements of literature, 2) To read various novels, 3) To write a detailed character description, a persuasive essay, and a personal narrative in conjunction with these novels, as well as respond to a picture prompt. 4) To gain understanding of grammar and sentence mechanics.

PORT OF ENTRY ENGLISH AS A SECOND LANGUAGE

This course is designed for students who are new to the English language. Through the use of "Jazz Chants" and other rhythmical language, the students will develop their oral and aural skills.

Goals: 1) To learn vocabulary necessary to identify items connected with school, the home and the community, 2) To develop English grammar through the study of the two present

verb tenses, as well as the simple past tense and use that knowledge in the construction of simple sentences, 3) To develop reading skills through the use of "Jazz Chants", Dolch sight words, and simple readings, 4) To combine the elements of reading, speaking, writing and comprehending with the use of total physical response activities.

ENGLISH AS A SECOND LANGUAGE

This course is designed for the 8th grade student who has a facility with the English language and who is preparing to take the Grade Eight Proficiency Assessment.

Goals: 1) To learn test-taking techniques, 2) To develop writing skills necessary to respond to a persuasive essay questions, 3) to locate, identify and correct errors in writing.

FRENCH I, ITALIAN I, SPANISH I

Level I is an expansion of the introductory French, Italian, Spanish course given in 6th grade. The program's philosophy is to provide an emphasis in all four communicative areas: listening, speaking, reading and writing as well as an overview of culture. In Level I, the student will continue to acquire the basic verbal, reading, and writing skills of the language. Cultural aspects of the French, Italian, and Spanish speaking world will be further explored. The material in this course is completed throughout the 7th and 8th grades. However, an accelerated program allows exceptional 7th grade students to complete this course in just one year.

FRENCH II, ITALIAN II, SPANISH II

Level II is an 8th grade course designed for the student who has completed the basic Level I course. In the Honors course, the student will continue to develop and improve his/her fluency in oral expression, reading, writing and aural comprehension. In addition, there is an expansion of cultural awareness. This course continuously integrates listening, speaking, reading, and writing proficiencies with culture in a spiral of ever increasing

complexity. Authentic learning experiences enhance language learning and cultural sensitivity for all learners.

PHYSICAL EDUCATION

Students will develop overall physical fitness and game skills and strategies in various activities. Emphasis is placed on lifelong skills.

Goals: 1) To improve the strength, speed, endurance and flexibility of the student, 2) To understand the value of physical exercise, 3) To improve the social and emotional development of the student, 4) To improve the student's knowledge of skills, rules, techniques, and strategies as they pertain to specific sports, 5) To expose students to a variety of activities which will ultimately add in their search for life time leisure activities, 6) To have fun.

HEALTH

The Health curriculum covers the following topics: "Alcohol and Drug Awareness", "DARE", and the "Gang Resistance Education and Training" (GREAT) program.

Goals: 1) To increase a student's understanding of one's self, 2) To create wellness by learning good habits, 3) To prevent substance abuse.

ART

Creative expression is a necessity for the healthy growth of all children. Emphasis is given on art values, sensitivity to design, and continuous process of attaining skills and striving toward individual creation and expression

Art Connections: Emphasizes classic hands-on drawing techniques and graphic arts and uses them interchangeably.

General Art: Emphasizes drawing and the value of 3D artwork.

Visual Art: Emphasizes the fine arts and basic drawing and painting skills.

Goals: 1) To gain knowledge of the expressive media, 2) To utilize art elements and principles, 3) To utilize art media to produce artistic products, 4) To demonstrate knowledge of the critique process, 5) To enhance

aesthetic awareness of art history, 6) To help students evaluate their own progress in creating artwork, 7) To engage students in understanding and appreciating the process of creating artwork in addition to their product.

WORLD LANGUAGE ENRICHMENT

World Language Enrichment offers students an opportunity to explore the history, geography, art, culture, literature, music and cuisines of the countries where Spanish, French and Italian are spoken. The enrichment curriculum is project based and evaluated on a pass-fail basis.

BAND

The focus of this course is to maximize musicianship and technical skills learned in the sixth and seventh grade band. Emphasis is placed on exploring many different styles of band music.

Goals: 1) To offer students the opportunity to study and perform a variety of band literature, 2) To further develop and reinforce various music performance techniques, 3) To prepare students for scheduled performances.

ORCHESTRA

Students will develop the skills for playing in an orchestra. Throughout the course, students will continue to develop the technical facility by way of more refined bowing and left hand technique. Students will be exposed to various styles of music from different time periods.

Goals: 1) The opportunity to perform in concert using a wide variety of orchestral literature, 2) Develop an understanding, appreciation, and love for music, 3) Communicate aesthetic responses.

CHORUS

Students will have the opportunity to grow in their enjoyment and understanding of music by singing selected vocal scores that fit the technical level and voice range of the student. The repertoire will include a variety of styles such as folk, popular, multicultural and classical music.

Goals: 1) To increase the ability of students to perform two part singing and three part harmony, 2) To offer students

the opportunity to study and perform a variety of choral literature, 3) To increase the vocal range of students, 4) To reinforce through performance vocal techniques, diction, and sight-singing, 5) To utilize technology to enhance performance, 6) To introduce student created movement to accompany vocal literature

SYNERGISTICS SYSTEM (MATH OR SCIENCE)

Students participating in this course will take in a fourteen day rotation, each consisting of a different technology based unit of study. Each student will complete different Synergistic Systems modules. Eighth grade math modules include: Package and Design, Digital Design, Flight Technology, Lights and Lasers, Robotics, Confident Consumer, Music and Sound, Bioengineering, Interior Design, Baking and Measuring, Personal Finance, and Forces.

Eighth grade science modules include: Applied Physics, Energy Power and Mechanics, Creative Solutions, Careers, Cell Structure, Plants and Pollination, Genetics, biotechnology, Heart Fitness, Body Systems, Immune Systems, Microbiology, Weather, and Weights and Measures.

Goals: 1) Students will develop a measurable awareness of technology and its significant force and source in their every day lives, 2) Each unit of study will be explored through the application of design/problem-solving activities, which engage students in hands-on experiences with a variety of technologies in math and science, 3) Students will acquire life skills in problem solving by conducting experiments and using advance software applications, which utilizes critical thinking, 4) The activities completed in this course will reinforce and enrich concepts of math, language arts, social studies and science as interdisciplinary components of each unit of study.

QUEST

The Quest program in the eighth grade is offered to students who have been identified as gifted and talented through multiple measures. Themes taken from the study of literature in the Language Arts Honors 8 program are extended and manipulated in a variety of formats. Opportunities for creative writing, research, application of technology, public speaking and performance arts are explored. Themes include futurism and the role of futurists in a variety of fields, leadership and its application in a technologically advanced society, the system of courts in the U.S. and presentation of mock trial, and the art of memoir. Students self select topics for research and exploration within these broad themes.

Goals: 1) To write, speak, and perform original texts in a variety of formats for real audiences, 2) To develop problem solving skills including analysis, application, and evaluation, 3) To exercise both group cooperation and leadership skills, 4) To encourage and exercise independent initiatives for learning and self expression, 6) To connect school learning to the community and the world.

BASIC SKILLS

Students identified in need of additional support in mathematics or language arts are eligible for basic skills instruction.

Goal: 1) To provide additional support to students who are either recommended by their teachers or have performed below the established base line criteria on standardized tests

TEST PREP

This course identifies students that have scored in the Proficient range or between the 50-85 percentile on standardized tests and provides additional support in language arts and math test taking skills.

Goals: 1) To provide students with skills and strategies for success on objective and open-ended test questions, 2) To provide students with test practice under timed conditions

INDUSTRIAL ARTS

Eighth grade students will engage in several problem solving technology-based projects during the half year Industrial Arts program. Projects will vary in length and difficulty as students learn how to solve more complex challenges. Students will be required to follow specific a design brief, or set of specifications and limitations for each project. Students will also be afforded the opportunity to individualize their projects as well as follow patterns for specific parts. Topics covered will include model bridge engineering, CO2 dragster design/race competition and basic woodworking. Shop procedures, safety regulations and design process will be emphasized.

COMPUTER APPLICATIONS

Students who participate in the computer application exploratory cycle will learn how to use the computer, computer applications, and computer peripherals as academic tools in order to assist them in their daily class work. The students will apply and integrate keyboarding fundamentals, application awareness and Internet usage in cross-curricula projects.

Goals: 1) students will be able to use correct finger reaches for alphabetic and punctuation keys, 2) Students will be able to safely and effectively search the Internet, 3) Students will be able to analyze and integrate information found on the Internet into projects via other computer applications, 4) Students will be able to create, design, format and organize documents using a page layout program, 5) Students will be able to create, de-

sign, format and organize document using a word processor, 6) Students will integrate digital media into their work using computer peripherals such as digital camera and scanners.

ASSESSMENT

Student progress is assessed using multiple indicators. Assessment tools may include:

- Cumulative Exams
- Quizzes
- Running Records
- Self Assessments
- Portfolio Records
- Performance Based Assessments
- Projects
- Class Participation
- Homework
- Journals/Logs
- Daily Assignments

Using these various evaluation tools, teachers assess each student's progress per unit and marking period. The emphasis on assessing a student's progress is to discover which concepts, skills, and habits need to be reinforced. Assessment is both formative and summative. Students will receive grades based upon their cumulative progress in each subject area each marking period.

