Upper Merion Area School District
Curriculum Information for Parents and Community

Grade 6

Sixth Grade is the first year of the middle grades (Gr. 6-8) but the final year in our middle school lower house (Gr. 5-6). Throughout students' middle school experience, we are sure to provide a rich, supportive learning environment for the whole child: academically, socially, and emotionally.

Students in Sixth Grade participate in three blocks of academic classes each day: English Language Arts, Math, and Integrated Science/Social Studies. Each student is assigned to a team of teachers who teach the same students. In sixth grade, students participate in Exploratory World Language classes. In addition to Exploratory, students also have one Unified Arts class each day. Which Unified Arts class a student attends changes periodically over the course of the school year. Students are invited to participate in Orchestra and/or Band on a pull-out basis.

If you have any questions regarding your child's educational program, please contact your child's team of teachers or school counselor for more information.

ENGLISH LANGUAGE ARTS (ELA)
Sixth Grade students develop academic communication skills through regular practice in listening, speaking, reading, and writing. Visual and technological communication is integrated. Specific ELA skills in Sixth Grade include:
-Read and comprehend grade-level literary fiction, literary nonfiction, and informational text independently and proficiently
-Know and apply grade-level phonics, sight words, and word analysis skills in reading with accuracy and fluency
-Determine a theme of a text from details in the text
-Cite textual evidence by quoting from the text to explain what the text says explicitly and to make inferences
-Compare and contrast two or more characters, settings, or events in a story or drama, drawing on specific details in the text
-Draw on information from multiple print or digital resources
-Write informative texts using definitions, facts, concrete details, quotations, or other information and examples related to a nonfiction topic
-Write narratives with an awareness of style
-Write opinion pieces with reasons that are supported by facts and details and drawn from credible sources
-Choose words and phrases to convey ideas precisely
-Demonstrate a grade-appropriate command of the conventions of standard English grammar, usage, capitalization, punctuation, and spelling
Upper Merion uses *Wonders* by McGraw Hill as an instructional resource to teach Balanced Literacy in Grades K-6. Overall, our teachers instruct students toward the mastery of the Pennsylvania Core Standards.

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MATHEMATICS

Sixth Grade students are encouraged to take great care in their mathematical processes as they continue to use a myriad of skills and concepts to solve higher-order thinking mathematical problems. Each student uses negative numbers, fractions, one-step equations, ratios and rates, expressions and equations, and order of operations to solve complex questions. In addition, students will continue to explore statistics and will make decisions about real-world topics using multiple statistical methods.

- Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, “The ratio of wings to beaks in the birdhouse at the zoo was 2:1, because for every 2 wings there was 1 beak.” “For every vote candidate A received, candidate C received nearly three votes.”
- Understand the concept of a unit rate a/b associated with a ratio a:b with b ≠ 0, and use rate language in the context of a ratio relationship. For example, “This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar.” “We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.” 1
- Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent.
- Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.
- Fluently divide multi-digit numbers using the standard algorithm.
- Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.
- Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. For example, express 36 + 8 as 4 (9 + 2).
- Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.
- Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., -(-3) = 3, and that 0 is its own opposite.
- Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.
- Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. For example, for an account balance of -30 dollars, write |-30| = 30 to describe the size of the debt in dollars.
- Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.
- Write and evaluate numerical expressions involving whole-number exponents.
- Write, read, and evaluate expressions in which letters stand for numbers.

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- Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. For example, describe the expression 2 (8 + 7) as a product of two factors; view (8 + 7) as both a single entity and a sum of two terms.
- Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). For example, the expressions y + y + y and 3y are equivalent because they name the same number regardless of which number y stands for
- Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.
- Solve real-world and mathematical problems by writing and solving equations in the form x + p = q and px = q for cases in which p, q and x are all nonnegative rational numbers.
- Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.
- Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.
- Understand that a set of data collected to answer a statistical question has a distribution that can be described by its center, spread, and overall shape.
- Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
- Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.

INTEGRATED SCIENCE/SOCIAL STUDIES

Science and Social Studies are integrated into a single course in the Middle School Lower House (Gr. 5-6). Science content includes scientific method; Geology (the study of rock types, rock layer formations, and plate tectonics); Ecosystems (population growth, symbiotic relationships, sustainability); Forces (speed and acceleration) and Newton's Laws. Social Studies centers around ancient civilizations. The course content begins with hominids as hunter-gatherers and investigates the importance of farming in establishing civilizations. Ancient Sumer, Egypt, Greece, and Rome are featured. Natural Disasters (volcanoes, mass flooding, tsunamis, earthquakes) are investigated.

UNIFIED ARTS

The following Unifed Arts (UA) courses run on either a 2-day cycle for the entire marking period (A and D or B and C days) or a full 4-day cycle for half the marking period (22 class days).

Art - Emphasis of art is on the Elements of Art with a focus on ancient civilizations and culture. Students also investigate the purpose and functions of artwork in students' own culture.
Music - Introduction to the piano is the main point of focus in Sixth Grade general music.

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Computer Science - Students will delve deeper into programming topics introduced in previous courses to create flexible solutions to more complex problems. By the end of this course, students create interactive stories and games they can share with anyone. Students will learn about computational thinking, conditional statements, nested loops, while loops, crowdsourcing, and digital citizenship.
Health - The 6th grade health curriculum covers a variety of areas including: Nutrition, Body Systems (Endocrine, Nervous, Integumentary, Muscular, Immune and the Urinary system), and Puberty. Parents/Guardians/Caregivers can contact their child's teacher if they would like specifics on what is being taught in each unit.
Physical Education - The Physical education curriculum covers: Fitness, Cooperative Games, and Tactical Sports. Students will participate in a variety of sports including: Soccer, basketball, floor hockey, volleyball, aerobics, flag football, and softball. In addition, students will engage in a swimming unit where they will either learn to swim or understand different components of aquatic fitness.
STEM and Engineering - The Technology and Engineering Education program is an exploratory program that focuses on developing technology problem-solving skills, technological literacy, and 21st century skills through hands-on activities integrating Science, Technology, Engineering, and Mathematics (STEM). In 6th grade students take Exploring Technology, an activity-based course that introduces students to technology by exploring Systems of Technology, Design and Engineering using integrated science, the technological problem solving method, engineering design process, energy, graphic communication, aerospace engineering, system control, and robotics. Students will work in teams and individually to complete required classroom and lab assignments. Projects include: Water powered rockets, Air powered dragsters, Lego Mindstorm Robotics, Various engineering/building challenges, and Introduction to Standard and Metric measurement.
Family and Consumer Science (FCS) - In 5th and 6th grade, students will focus on learning how to cook and work safely in the kitchen.
Leadership - Character and resiliency are the focus of Leadership. Students examine growth mindset, perseverance, self-advocacy, problem-solving, time management, goal setting, and mindfulness.
Physical Education - In addition to marking-period Physical Education, students have an additional short cycle of PE
STEM in Music - Students are provided an introduction to the ukulele in 6th-grade STEM in music.

Pennsylvania System of School Assessment (PSSAs)
In Sixth Grade, students take PSSA tests in ELA and math. The Text Dependent Analysis (TDA) essay makes up 25% of a student's ELA score.

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