ELA COURSES

Grade 6 ELA

In sixth grade, all students engage in meaningful collaborations with peers, read and savor new and exciting literature, and deepen their knowledge of academic English. Sixth grade teachers provide instruction that enables all students to comprehend text, and students read closely to gain understanding and construct meaning from texts. Students learn to monitor their own understanding as they read and use strategies to clarify any confusions that arise. In addition, students determine a central idea of a text, analyze how a key individual or event is introduced, and determine an author's point of view. A multi-faceted approach is taken to develop vocabulary. In writing, students move from writing opinion pieces to writing arguments to support claims with clear reasons and relevant evidence, citing evidence to support their understanding of key ideas and supporting details. Students are expected to write summaries that are distinct from personal opinions, judgments, and prior knowledge. For the first time, student writing includes a thesis statement. Students also continue to write narrative texts, containing relevant descriptive details and well-structured event sequences. They also conduct short research projects to answer a question. Students are expected to use multiple print and digital sources, assess the credibility of each source, and quote data and conclusions while avoiding plagiarism. Collaborative discussions remain an important element of instruction in grade six. Students now refer to evidence on the topic, text, or issue during discussion. They also demonstrate understanding of multiple perspectives through reflection and paraphrasing during discussions as well. Students in grade six increase their command of conventions of Standard English grammar and usage capitalization, punctuation, and spelling.

Grade 6 Project Arrow ELA

In sixth grade Project Arrow ELA, students continue to strengthen the development of reading and writing skills not just in language arts, but across the content areas. Specifically, they examine the patterns and elements of a story authors use in text to enhance comprehension and engage readers. Students will analyze text for the interactions of literary elements and point-of-views of characters. Students also analyze word choice, opinions, and claims in fiction and nonfiction text. Students will identify techniques an author uses to create characters and cite evidence to support interpretation. They will determine the theme or central idea of a text and analyze, in detail, its development. Students will compare and contrast a fictional portrayal of setting with a real historical setting. Students will use purpose, structure, the elements of plot, and figurative language in narrative writing and use tone and pacing in storytelling. They will convey timelines in narrative writing while describing a setting effectively. Students will research articles and create summaries to build arguments using claims. Students will create informative writing using an effective introduction and conclusion, clear and relevant facts, and transitions. Students will incorporate knowledge of specific conventions, parts of speech, punctuation, and grammar in writing to contribute to overall understanding and create style. They will engage in discussions that state and support their claims in literature and other areas. Students will use strategies and their knowledge of affixes and roots to understand the meaning of words and

phrases. This course utilizes the Illinois Learning Standards for seventh grade English Language Arts.

Grade 7 ELA

In seventh grade, students continue to engage with ideas, concepts, and knowledge in literature and informational texts. Using evidence from texts, students read carefully in order to grasp information, ideas, and details to create their own understanding and arguments in writing and discussions. Students work to answer text-dependent questions using evidence they discover and information they infer from paying close attention to the meaning of a text. Using informational texts, students cite not just one (as in grade six) but several pieces of textual evidence to determine more than one main idea in a text and write an objective summary. Students compare and contrast texts and trace the development of an argument in a selection of informational texts. A multi-faceted approach advances students' vocabulary knowledge in the increasingly complex text that they read. Students write arguments in which they acknowledge and address alternate or opposing claims; they support claims or counterarguments. They continue to write narratives to develop real or imagined experiences or events. In addition, seventh graders conduct research and produce written products with increasing independence and attention to audience, purpose, and citation of sources. Students are expected to demonstrate command of the conventions of Standard English grammar and usage when writing or speaking, and they are expected to demonstrate command of Standard English capitalization, punctuation, and spelling when writing.

Grade 7 Project Arrow ELA

In seventh grade Project Arrow ELA, students continue to strengthen the development of reading and writing skills not just in language arts, but across the content areas. Specifically, they examine fiction and nonfiction text in order to learn how authors structure text differently. Students will examine dialogue, specific incidents, and differences in points of views while responding to text. They will delineate and evaluate arguments and claims from text and speech to assess reasoning. Students will consider the point of view of authors, characters, and themselves while encountering and interpreting text. Students will write an informative or explanatory text to examine a topic and will share their experiences through narrative writing. Students will build an argument using logic, reason, and text support and will also work to express their own ideas and build on the ideas of others. Students will use strategies and their knowledge of affixes and roots to understand the meaning of words and phrases, and they will incorporate knowledge of specific conventions, parts of speech, punctuation, and grammar in writing to contribute to overall understanding and to create style.This course utilizes the Illinois Learning Standards for eighth grade English Language Arts.

Grade 8 ELA

In eighth grade, students continue to develop reading and writing skills not just in language arts, but across the content areas. Specifically, they analyze the relationship of a theme to characters, setting, and plot and analyze how a text makes connections among and distinctions between individuals, ideas, or events. They delineate and evaluate arguments and claims in a text and distinguish the claims they make in their own writing from alternate or opposing claims as they read closely to understand what a text says explicitly and to draw inferences from a text. When developing summaries, students sort through the ideas of a text to identify those that are central. Eighth grade students write arguments and support claims, they now distinguish their claims from alternate or opposing claims. They continue to write informative/explanatory texts, including career development documents. They also write narratives to develop real or imagined experiences or events. In addition, eighth graders are expected to conduct research and produce written products with increasing independence and attention to audience, purpose, and citation of sources. Specifically, they are expected to use technology and the Internet to present the relationships between information and ideas efficiently. Students in grade eight are expected to understand and use sentence patterns and verbs in active and passive voice and the conditional and subjunctive mood.

Grade 8 Project Arrow ELA

In eighth grade Project Arrow ELA, students continue to develop reading and writing skills not just in language arts, but across the content areas. Specifically, they examine text as the creative expressions of an artist, learning that fiction and nonfiction authors use different techniques to craft their works. Students will learn the names and purposes of literary techniques used in both types of communication. In addition, they will create both types of text with deliberate attention to using irony, suspense, diction, and structure. Eighth grade Project Arrow students will also critically examine fiction and nonfiction texts for evidence of bias or perspective with a focus on diction. Students will craft pieces of text from multiple perspectives. Students will examine fable, allegory, and satire as tools of persuasion along with traditional rhetorical patterns found in many political speeches. Students will write and deliver a classic rhetorical speech. Students will participate in historical conflicts via literature in order to evaluate the effectiveness of selected writings. They will research a modern day controversy and report on the conflicts resulting from the issue. Students will learn that sentences can and should be deliberately varied using various types of phrases and clauses and four different sentence structures to convey specific meanings and to add variety and interest to writing or presentations. They will learn that using appropriate verb agreement, appropriate pronoun agreement, and the conventions of capitalization and punctuation results in clear writing and accurately conveys meaning in written communication. Students will learn the meaning of Latin bases and how to use strategies to find the meaning of words using Latin base knowledge and the context clues within the sentence to enhance vocabulary development. This course utilizes the Illinois Learning Standards for ninth grade English Language Arts.

MATH COURSES
At each grade, students are expected to not only develop an understanding of content standards, but also develop key behaviors outlined in the Standards for Mathematical Practice.

Preparing students for 21st century careers in our information-based society must involve solving real-world problems, reasoning effectively and making logical connections. Students are encouraged to develop the critical thinking skills required to persevere through a tiered problem solving challenge. This, incorporated with a strong foundation in mathematical operations and number sense, will enable students to produce convincing oral and written mathematical arguments. Infusing technology supports visualization, organization and analysis of data so that students are better able to focus on the "Whys" and "Hows" of mathematical learning. Through rich and varied educational experiences, students are encouraged to think critically and collaborate with peers; to use mathematics and 21st century skills for effective college and career readiness.

Typical pathways for math course enrollments can be found here

Grade 6 Math

In 6thgrade mathematics, students will explore numerical expressions and factors; fractions and decimals; ratios and rates; percents; algebraic expressions and properties; equations; area, surface area and volume; integers, number lines and the coordinate plane; and statistical measures.

Instructional time focuses on four critical areas:

1. connecting ratio, rate, and percentage to whole-number multiplication and division to solve problems
2. division of fractions and system of rational numbers, which includes negative numbers
3. writing, interpreting, and using expressions and equations
4. developing understanding of statistical thinking

Grade 7 Math/Grade 6 Accelerated Math

In 7thgrade mathematics & 6th grade accelerated math, students will explore adding and subtracting rational numbers; multiplying and dividing rational numbers; expressions; equations and inequalities; ratios and proportions; percents; probability; statistics; and geometric shapes and angles.

Instructional time focuses on four critical areas:

1. developing understanding of and applying proportional relationships
2. developing understanding of operations with rational numbers and working with expressions and linear equations

3. solving problems that involve scale drawings, two- and three-dimensional shapes, area, surface area and volume
4. drawing inferences about populations based on samples

Grade 8 Math/Grade 7 Accelerated Math/Grade 6 Project Arrow Math

In 8th grade math, 7th grade accelerated math & 6th grade Project Arrow math, students explore equations; transformations; angles and triangles; graphing and writing linear equations; systems of linear equations; data analysis and displays; functions; exponents and scientific notation; and real numbers and the Pythagorean Theorem.

Instructional time focuses on three critical areas:

1. formulating and reasoning about expressions and equations, including modeling an association in bivariate data with a linear equation, and solving linear equations and systems of linear equations
2. grasping the concept of a function and using functions to describe quantitative relationships
3. analyzing two- and three-dimensional space and figures using distance, angle, similarity, and congruence, and understanding and applying the Pythagorean Theorem.

Grade 7 Project Arrow Math/Grade 8 Accelerated Math (Algebra 1)

Algebra 1 is a one-year course. Students are introduced to concepts covering modeling with mathematics, linear functions, solving equations and inequalities, solving systems of equations, graphing quadratics, operations with polynomials, basic statistics, and quadratic functions. Note-taking and study skills are stressed and formalized.

Instructional time should focus on five critical areas:

1. Developing fluency in writing, interpreting, and translating between various forms of linear equations and inequalities, and using them to solve problems.
2. Understanding function notation, interpreting functions graphically, numerically, symbolically, and verbally, translating between representations and understanding the limitations of various representations.
3. Extending the properties of exponents to rational exponents and comparing and contrasting linear and exponential functions.
4. Applying an understanding of data in order to create linear models for data.
5. Extending understanding of functions to quadratic functions and creating and solving quadratic equations.

Grade 8 Project Arrow Math (Honors Geometry)

In addition to covering the topics listed below, this course provides a more rigorous and in-depth approach to covering geometric ideas and formal proofs. The Math Practice Standards are the foundation of lessons, teaching students how to reason and think mathematically.

Topics covered in this course include:

- Transformations
- Constructions
- Congruence
- Properties and applications of quadrilaterals and circles
- Coordinate geometry
- Similarity
- Right triangle trigonometry
- Surface area and volume of three-dimensional figures

SCIENCE COURSES

Grade 6 Science

Sixth grade Science begins with the teaching of laboratory safety and precautions for students who may be new to lab experiments. Throughout sixth grade, all units are project-based with students engaging in several scientific practices including asking questions, designing and carrying out investigations, analyzing data, developing models and constructing models of phenomena. In the first unit, students learn about light. The scientific principles that explain the behavior of light are the same principles that govern much of the behavior of cellular phones, computers, MRI scanners, microwave ovens, nuclear power plants, televisions, satellite communication, GPS, and many other systems.The second unit is an introduction to chemistry that focuses on one of the core ideas in physical science—the particle nature of matter. Students experience, model, and explain a variety of laboratory and everyday phenomena related to core ideas about matter and its interactions and, more specifically, the structure and properties of matter. The third unit builds on core science concepts such as the particle nature of matter and substances and their properties. The fourth unit explores energy transfer (from one object to another, or one place to another within an object); energy transformation (from one type of energy to another); and what it means for energy to be conserved.

Grade 7 Science

Seventh grade Science begins the year with a review of lab safety and precautions. The first unit focuses on how the body systems work together and how matter and energy flow through the body. The second unit deepens understanding of the molecular aspects of how food provides organisms with energy. The third unit is an ecosystem unit that focuses on organisms' need for survival and what happens when those needs are not met. The fourth unit is organized around three clusters of ideas: heredity, variation within and between species, and natural selection. The organizing theme is differences between organisms and how differences happen.

All units are project-based with students engaging in several scientific practices including asking questions, designing and carrying out investigations, analyzing data, developing models and constructing models of phenomena.

Grade 8 Science

Grade 8 Science begins with a review of lab safety and precautions. The first unit is a physical science unit that contextualizes concepts with forces and motions in students' real world experiences. The second unit focuses on plate tectonics and builds on key conceptual understandings including the conservation of matter, convection, and energy transfer. The third unit explores water in the world by leading students to understand how the land is shaped differently, how water moves between reservoirs, how moving water affects land, and the role of rock in creating shapes. The fourth unit is an earth science unit that focuses on what causes variation in local weather events and global climate patterns by developing a model of flow of matter and energy through the atmosphere. All units are project-based with students engaging in several scientific practices including asking questions, designing and carrying out investigations, analyzing data, developing models and constructing models of phenomena.

Project Arrow Science

In the Project Arrow Science courses, students explore all of the phenomena and units listed in the grade level descriptions above. In addition to mastering the skills and standards at each grade level, students are afforded the opportunity to increase pace, depth and level of learning.

SOCIAL STUDIES

The middle school social studies focus on the developmental needs of middle school students and are designed to cultivate critical thinking skills through the inquiry process. The disciplinary concepts of civics, economics, geography and history are integrated throughout the curriculum. Students will utilize the inquiry process to develop questions, research, weight evidence and develop conclusions. Below are the topics covered in each of the middle school courses.

Grade 6 World History

In this course, students will explore the physical geography, governments, cultures & legacies/lasting impacts of various ancient civilizations. In each of the units of study, students examine various sources in order to develop an argument to a compelling question.

Grade 7 Geography & Global Studies

In this course, students explore geography and examine a variety of topics, including globalization, culture, human rights, boundaries & human progress from a global perspective. In each of the units of study, students examine various sources in order to develop an argument to a compelling question.

Grade 8 U.S. History & Civics

In this course, students will examine multiple events in U.S. history. This course also fulfills the Illinois State Civics mandate in accordance with the Illinois Learning Standards for Social Science.

Project Arrow Social Studies

In the Project Arrow social studies courses, students explore all of the units of study listed above for each grade level. In addition to mastering the skills and standards at each grade level, students are afforded the opportunity to increase pace, depth and level of learning.