



10th Grade Student Profile

ENGLISH

Throughout the year, each 10th grade student will learn and demonstrate:

LISTENING/SPEAKING

- Listen critically to gain information and supporting devices.
- Monitor their understanding of a spoken message and interpret speaker's messages, purposes, and perspectives.
- Speaks clearly and appropriately to different audiences for different purposes and occasions.
- Communicates clearly by putting thoughts and feelings into spoken words.

READING

- A basic understanding of culturally diverse written texts.
- An ability to analyze and critically evaluate the written texts and visual representations.
- Various strategies to aid in word identification, vocabulary development, and reading comprehension.
- Identification of the relation of word meanings in analogies, homonyms, synonyms/antonyms, and connotation/denotation.
- Identification of main ideas and their supporting details, and summarization of texts.
- Analysis of literary elements for their contribution to the work's meaning.
- Recognition and interpretation of poetic elements and the effect of sound on meaning in a literary work.
- An ability to draw inferences such as conclusions, generalizations and predictions and support them from the text.
- An interpretation of the possible influences of the historical context on literary work.
- Analysis of the characteristics of text, including its structure, word choices, and intended audience.
- Evaluation of the credibility of information sources and to determine the writer's motives.
- Analysis of the text to evaluate the logical argument employed.
- Analysis of nonfiction texts and visual representations to get the main idea of the message's content.
- An understanding and interpretation of visual representations through an analysis of relationships, ideas, and cultures shown in various media.
- An ability to distinguish the purposes of various media forms as well as identifying bias and other persuasive techniques.

WRITING

- The ability to produce within a given context, an effective composition for a specific purpose, demonstrating a command of the conventions of spelling, capitalization, punctuation, grammar, usage, and sentence structure, as well as using the techniques of revision, editing, proofreading, to evaluate their work.

VIEWING/REPRESENTING

- Understand and interpret visual messages and media.
- Analyze and critique the significance of media.
- Produce visual representation that communicates with others.

MATHEMATICS

In 10th grade your child will be given the opportunity to learn:

GEOMETRIC STRUCTURE

- Develop awareness of the structure of mathematical system, connecting definitions, postulates, theorems, and logical reasoning
- Compare and contrast the structures and implications of Euclidean and non-Euclidean geometries
- Use constructions to explore attributes of geometric figures and to make conjectures
- Make conjectures about angles, lines, polygons, circles, and three-dimensional figures, using a variety of approaches
- Determine if the converse of a conditional statement is true or false
- Demonstrate what it means to prove mathematically that statements are true
- Use inductive reasoning to formulate a conjecture
- Use deductive reasoning to prove a statement
- Select appropriate representation (concrete, pictorial, graphical, verbal, or symbolic) in order to solve equations.

GEOMETRIC PATTERNS

- Use numeric and geometric patterns to make generalizations about geometric properties
- Use properties of transformations and their compositions in applications such as fractals or compositions
- Identify and apply patterns from right triangle to solve problems

DIMENSIONALITY AND THE GEOMETRY OF LOCATION

- Describe and draw cross sections and other slices of three-dimensional objects
- Investigate properties of platonic solids
- Use top, front, side, and corner view of 3 dimensional objects to solve problems
- Use one and two-dimensional coordinate systems to represent point, line, line segments, and figures
- Use slope and equations of lines to investigate geometric relationships

CONGRUENCE AND THE GEOMETRY OF SIZE

- Find areas of polygons, composite figures, and sectors
- Find arc length of circles using proportional reasoning
- Develop, extend, and use the Pythagorean Theorem
- Find surface area and volume of prisms, pyramids, spheres, cones and cylinders in problem situations
- Formulate and test conjectures about the properties of parallel and perpendicular lines
- Justify and apply triangle congruence relationships

SIMILARITY AND THE GEOMETRY OF SHAPE

- Use similarity and transformations to justify conjectures about geometric figures
- Use ratios to solve problems involving similar figures
- Apply right triangle ratios, trigonometric ratios, and Pythagorean triples
- Describe effect on perimeter, area, and volume when length, width, and height are changed

SOCIAL STUDIES

In the 10th grade World History, your teenager will learn:

HISTORY

- Identify major eras, significance of various dates, individuals, and events in World History.
- Compare the political, economic, and social causes of exploration and colonization of the world.
- Understand the challenges confronted by various governments and its leaders throughout the world.

GEOGRAPHY

- Explain the effects geographical influences on historical issues and events of the world
- Use geographic tools to collect, analyze, and interpret data
- Locate and compare places and regions of the U.S. and the world
- Analyze the effects of physical and human geographic factors on historical and contemporary events and how humans adapted and modified the environment throughout the world

ECONOMICS

- Describe the distribution and characteristics of economics systems throughout the world
- Understand why various sections of the world developed different patterns of economic activity

GOVERNMENT

- Understand the foundations of various governments around the world, specifically representative governments.
- Recognize the principles of the U.S. Constitution and other historic documents in world history.
- Understand the impact of landmark Supreme Court cases

CITIZENSHIP

- Understand the rights and responsibilities of citizens of the U.S.
- Recognize the importance of the expression of different points of view and effective leadership in government, especially in a democratic society.

CULTURE

- Understand the ways in which cultures change and maintain continuity
- Describe the characteristics of the major religions throughout the world

SCIENCE, TECHNOLOGY, AND SOCIETY

- Describe the impact of science and technology on life in the U.S. and the World

SOCIAL STUDIES SKILLS

- Apply age-appropriate critical-thinking skills, communicate effectively, and use problem-solving and decision-making processes.

SCIENCE

In the 10th grade a student will learn:

LAB INVESTIGATION AND SAFETY

- Laboratory investigation and safety training in the use of lab equipment
- Conservation of and disposal or recycling of materials.

SCIENTIFIC INQUIRY

- The scientific method during field and laboratory investigation
- To collect and make measurements with precision
- To organize, analyze, evaluate, make inferences and communicate valid conclusions

CRITICAL THINKING AND PROBLEM SOLVING

- Critical thinking and scientific problem solving to make informed decisions
- To analyze, review, and critique scientific explanations, including hypotheses and theories as to their strengths and weakness using scientific evidence and information

BASIC STRUCTURES OF CELLS

- To identify the parts of prokaryotic and eukaryotic cells and investigate cellular processes including homeostasis, permeability, energy production, transportation of molecules, disposal of wastes, function of cellular parts, and synthesis of new molecules
- To compare cells from different parts and plants and animals including roots, stems, leaves, epithelia, muscles, and bone to show specialization of structure and function

STRUCTURES & FUNCTIONS OF NUCLEIC ACIDS

- Components of DNA and illustrate how information for specifying the traits of an organism is carried in the DNA

THEORY OF BIOLOGICAL EVOLUTION

- To illustrate the results of natural selection in speciation, diversity, phylogeny, adaptation, behavior, and extinction

APPLICATIONS OF TAXONOMY

- Relationships among organisms and develop a model of hierarchical classification system based on similarities and differences using taxonomic nomenclature

METABOLIC PROCESSES AND ENERGY TRANSFERS

- The structures and function of different types of biomolecules such as carbohydrates, lipids, proteins, and nucleic acids

LEVELS OF NATURE & LIVING SYSTEMS

- The function of systems in organism including circulatory, digestive, nervous, endocrine, reproductive, integumentary, skeletal, respiratory, muscular, excretory, and immune
- Relationships between internal feedback mechanisms in the maintenance of homeostasis

INTERDEPENDANCE & INTERACTIONS OF ECOSYSTEM

- The flow of energy through various cycles including the carbon, oxygen, nitrogen, and water cycle
- The significance of structural and physiological adaptations of plants to their environments