



Grade 10

Royal Oak Schools has a comprehensive curriculum for all tenth graders that includes academics, foreign language, physical education, health, music and art. Our curriculum also includes areas essential to the education of the total child. We pay close attention to the physical learning environment and the learning climate of our classrooms. We recognize the uniqueness of every child and are dedicated to providing the best educational experience possible. This folder describes Royal Oak's Curriculum for tenth grade students in the core academic areas of language arts, social studies, math and science.

A Parent guide to the Royal Oak

High School

GRADE 10

- Instruction is delivered in a variety of ways to maximize achievement.
- Our curriculum is under continuous review and revision by teachers and administrators from all buildings.
- The progress of all students is assessed in a variety of ways. Counselors meet with each tenth grader to review progress and update long range plans in preparation for scheduling. Report cards are sent home every six weeks. Standardized assessments for tenth graders include The Stanford Achievement Test, and the Otis – Lennon School Ability Test. Results are sent to parents and used for educational planning.
- At every level students accomplish important milestones in each curricular area. The curriculum is developmentally appropriate and challenging at each grade.
- This brochure outlines what we expect tenth grade students to be able to demonstrate throughout the year in each of the four core curricular areas.

language arts

The K-12 English Language Arts curriculum provides a framework for students to develop reading, writing, listening, speaking, and critical thinking skills

Tenth grade students will:

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- read and analyze a variety of genre that are thematically linked. Write an essay that links the theme with personal experience and makes reference to each of the texts.
- research social and political issues that affect contemporary society and the students personally.
- generate note cards, a formal outline, and a formal paper according to (mla) modern language association style. findings will be presented in an oral report
- model one of the pieces of thematic literature analyzed in class.
- write an argumentative essay about a current event and create presentations which address two distinct audiences.
- generate critical questions regarding heritage and diversity and conduct multigenerational interviews on these topics. they will analyze their interview responses in a comprehensive essay.
- write a letter to a public official requesting action on a social concern.

These assessments will be included in the 10th Grade Language Arts Portfolio.

social studies

The K-12 Social Studies Curriculum provides the framework for students to develop social understanding and civic responsibility by building four capacities in learners: disciplinary knowledge, thinking skills, commitment to democratic values, and citizen participation.

Students will:

In **AMERICAN GOVERNMENT**

The purpose of this semester course in American Government is to provide students with an understanding of the background and recent functioning of the American Federal System. Using a variety of sources, students will evaluate the purpose and effectiveness of our system of government. Through the analysis of important past decisions and current issues students will prepare themselves for their roles in society as informed responsible citizens.

In **CIVIC PERSPECTIVE**

- evaluate how effectively the federal government services the purpose for which it was created based on how it was designed.
- use ideas in the Declaration of Independence to evaluate the conduct of citizens, political behavior, and the practices of government.
- explain why people may agree on democratic values in the abstract but disagree when they are applied to specific situations.

In **HISTORICAL PERSPECTIVE**

- challenge historical arguments by formulating examples of how different choices could have led to different consequences.
- select pivotal decisions in United States history and evaluate them in light of core democratic values.

In **ECONOMICS**

The purpose of this one-semester course in Economics introduces students to basic economic principles. Students investigate how economic decisions affect their daily lives. They learn how business, industry, and labor influence economic decisions in America. They also discover the role economic issues play in the nation and the world. These topics are designed to give students practical knowledge and skills essential to making informed economic choices for themselves and society.

In **ECONOMIC PERSPECTIVE**

- evaluate a household budget and investigate potential problem areas such as health care, housing, education, energy use, and debt management.

- examine how supply and demand, prices, incentives, and profits affect production and distribution in a free market economy and a command economy.

math

The K-12 Mathematics Curriculum provides the framework for students to develop reasoning, communication, and problem-solving skills. The six strands of the math curriculum include: patterns, relationships and functions; geometry and measurement; data analysis and statistics; number sense and numeration; numerical and algebraic operations and analytical thinking; and probability and discrete mathematics.

Tenth Grade Geometry 1 & 2* accomplishes these strands as described below.

Students will:

Patterns, Relationships and Functions

- identify right triangles, apply relationships in 45-45-90 and 30-60-90 triangles, explore and apply theorems involving similar polygons and compare surface areas and volumes of solids.
- graph lines given the equation and determine equations of circles given the center and radius, and vice-versa.
- find the reflection image of a figure, find lines of symmetry of a figure, find the image of a figure under a translation, find the rotation image of a figure, find the image of a figure under a composition of transformations, find the image of a figure under a dilation and use properties of isometries.

Geometry and Measurement

- name, describe and draw models for points, lines and planes and use these terms to define basic relationships.
- identify triangles and classify them; identify parallel planes, parallel lines and skew lines; state and apply theorems about angles when parallel lines are cut by a transversal; and apply theorems that can be used to prove lines are parallel.
- explore and apply properties of congruence. They will deduce information about the measures of sides and angles of similar figures and use the AA Similarity Postulate, SAS Similarity Theorem and SSS Similarity Theorem to draw conclusions about triangles.
- apply the Pythagorean Theorem and its converse, identify and use the sine, cosine and tangent ratios, and use the angle of elevation and angle of depression.
- construct congruent segments, congruent angles, perpendicular bisectors, angle bisectors, perpendiculars to a given line, parallels to a given line and tangents to a circle.
- solve locus problems and construction problems.
- apply formulas for perimeters, areas, lateral areas, surface areas and volumes of plane and solid figures.
- graph points and choose appropriate placement for figures on a coordinate system.
- explore the properties of the four basic transformations and the theorems related to these transformations.

Data Analysis and Statistics

- draw and use appropriate diagrams; identify what information is needed to solve problems; and analyze, plan and solve problems.

Number Sense and Numeration

- develop a deeper understanding of irrational numbers by applying the sine, cosine and tangent ratios to right triangles and applying basic definitions and concepts related to circles and polygons.

Numerical and Algebraic Operations and Analytical Thinking

- apply the Segment Addition Postulate and Distance Formula. They will use complimentary and supplementary angles and apply angle sum theorems.
- write proportions related to parallel lines cut by a transversal and internal angle bisectors. Students will apply the Pythagorean Theorem.
- solve for arcs and central angles in circles.
- apply the formulas for perimeter, area, volume, lateral area and surface area.
- use the coordinate plane to place and label figures.

Probability and Discrete Mathematics

- use sets and set relationships to represent geometric concepts.

*The Extended Program will address this curriculum in the 11th grade.

science

The Science Curriculum provides the framework for students to develop scientific literacy by using, constructing, and reflecting on scientific knowledge, and coming to informed conclusions. Students will learn concepts and theories of the three main science areas: earth, life, and physical.

Students will:

Life Science

- explore cells as the basic living unit of which all organisms are composed.
- apply an understanding of cells to the functioning of multi-cellular organisms.
- investigate how cells grow, develop and reproduce.
- use classification systems to describe groups of living things.
- compare and contrast differences in the life cycles of living things.
- investigate and explain how living things obtain and use energy.
- analyze how parts of living things are adapted to carry out specific functions.
- investigate and explain how characteristics of living things are passed on through generations.
- explore how organisms within a species are different from one another and explain how new traits can be established by changing or manipulating genes.
- analyze how scientists construct and scientifically test theories concerning the origin of life and evolution of species.
- compare ways that living organisms survive and reproduce in their environments.
- analyze how species change through time.
- justify how parts of an ecosystem are related and how they interact.
- investigate how energy is distributed to living things in an ecosystem as well as how communities of living things change over a period of time.
- explore how materials cycle through an ecosystem and get reused in the environment, and analyze how humans and the environment interact.

Physical Science

- explain how elements differ in terms of their structural parts and electrical charges.
- investigate, describe and analyze ways in which matter changes.
- explain how visible changes in matter are related to atoms and molecules and how changes in matter are related to changes in energy.

Earth Science:

- compare our sun to other stars.
- the position and motion of our solar system in our galaxy.
- how stars and planetary systems form.

What Parents Can Do...

- Talk to your child about school daily.
- Talk to and work with your child's teacher(s).
- Encourage your child to read a variety of material daily.
- Encourage your child to use writing skills in daily life (e.g., thank you notes, letters, and lists.)
- Make math part of everyday life (e.g., money, time, fractions, and multiples) and discuss applications of math with your child.

- Acknowledge a good job when you see it with positive comments.
- Check and sign your child's planner daily.
- Look over and discuss your child's work.
- Encourage regular attendance at school.
- Promote community service and involvement in school activities.



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