



RADNOR TOWNSHIP SCHOOL DISTRICT
Course Overview



GATEWAYS
Eighth Grade Integrated

General Information

Credits: N/A
Weighted: N/A
Prerequisite: N/A

Length: Full Year
Format: Meets Daily for 3 Periods
Grade: 8

Course Description

Gateways is an interdisciplinary course in STEM education themed around influential scientists including Leonardo daVinci, Galileo, Sir Isaac Newton, Thomas Edison, and Albert Einstein. Gateways replaces the conventional Language Arts, Social Studies and Science classes, while meeting the Pennsylvania Core Standards for those subjects. Although it is not a "leveled" course, instruction is differentiated accordingly to meet individual students' needs.

Throughout the year, students participate in hands-on, inquiry-based learning experiences and engage in both individual and group projects to demonstrate what they are learning. In addition, a variety of field extensions are included to foster real-world connections. Students also participate in several national competitions and have the opportunity to interact with professionals in a number of STEM fields as a result.

Unlike other integrated program offerings at RMS, Gateways is a graded program. Students are assessed in a variety of ways and receive numeric grades for assigned work such as tests, quizzes, essays, labs, and projects, earning a report card grade calculated on the total points earned over the course of the marking period.

Course Objectives:

- Students will understand how science, technology, engineering, and math are interconnected.
- Students will be able to identify how the past informs the future.
- Students will know advancements in science and technology are constantly evolving.
- Students will understand that no idea or theory is absolute.
- Students will be able to explain how scientific advancements affected society and changed the course of world events.
- Students will understand that both positive and negative effects may result from scientific and technological advancement.
- Students will be able to identify STEM career fields and realize their future potential.
- Students will understand inquiry is essential for true understanding.
- Students will recognize persistence as the mother of invention.
- Students will be able to differentiate between innovation and invention.
- Students will be able to identify and apply the steps of the design process.
- Students will recognize the universe as limitless.
- Students will understand electricity is essential to the modern world.
- Students will be able to draw evidence from literary or informational texts to support analysis, reflection, and research.
- Students will be able to communicate ideas effectively through writing, collaborative discussions, and classroom presentations using a variety of technological tools.
- Students will develop and refine vocabulary, grammar, and writing conventions as they write across content areas to generate narrative, informative/expository, and persuasive pieces.

- Students will demonstrate understanding of key ideas and details, craft and structure, vocabulary, and literary conventions in works of literature.

Common Assessments:

Required Assessments:

LA Common Assessments:

1. WLB Narrative: Students will write an original personal narrative in an on-demand setting.
2. ERB WRaP: Students will write an expository piece according to the ERB guidelines.
3. WLB Argument/Text Dependent Analysis: Students will read and analyze a text to formulate an opinion they will defend in a timed written response.
4. WLB Narrative: Students will write a personal narrative in conjunction with required course reading in an on-demand setting.

Social Studies Common Assessments:

1. Constructed Response #1: Students will use historical documents to respond in writing to a pre-determined prompt.
2. Constructed Response #2: Students will use historical photographs to respond in writing to a pre-determined prompt.
3. WLB Persuasive: Students will write to persuade in a multi-paragraph, timed essay.
4. Constructed #3: Students will use photographs and political cartoons to respond in writing to a pre-determined prompt.

Science Common Assessments:

- WLB Expository: Students will write an expository piece in response to a pre-determined writing prompt.
- Energy Essay: Students will write a well-developed essay to demonstrate how the theme of energy is reflected through our study of physical science.

Common Course Assessments:

1. Vocabulary Assessments: Students will be regularly assessed in the Wordly Wise vocabulary program.
2. Unit Assessments
3. Mid-term assessment
4. Final cumulative project

Major Units of Study:

- daVinci unit: Dawn of Experimental Science
- Galileo/Newton unit: Questioning Authority
- Thomas Edison unit: Innovation
- Albert Einstein: Science's Role in Changing the World
- Future technologists and technology

Materials & Texts

Gateways uses the same essential texts used in the traditional eighth grade language arts and social studies courses. The former high school physical science book is used in place of the Glencoe series used on a traditional eighth grade team.

English/Language Arts Required Texts and Resources:

- *Wordly Wise* vocabulary program – Books 8 & 9
- Criterion Online Writing Evaluation, a service that evaluates students' writing skills
- *The Giver* by Lois Lowery
- *To Kill a Mockingbird* by Harper Lee

Science Required Texts and Resources:

- Holt: *Science Spectrum*

Social Studies Required Texts and Resources:

- McDougall-Littell: *Creating America*

Common Course Specific Texts and Resources

- *Electric Universe* by David Bodanis
- *Future Hype* by Robert Seidensticker
- *Galileo for Kids* by Richard Panichyk
- *The Green Glass Sea* by Ellen Klages
- *Leonardo's Shadow* by Christopher Grey

Supplemental Texts and Resources (use may vary):

- Literature circle and individualized reading selections based on student interest and reading level
- Selected materials from NMSI (formerly Laying the Foundation), an organization that provides teacher resources
- Project Lead The Way curriculum resources and accompanying software programs and technical instructional components
- Teacher created and teacher selected materials and resources required to provide an appropriate level of challenge to all learners.

Summer Assignment

Students should refer to the summer reading expectations published annually by the RMS Language Arts Department and RMS Library.

There are no summer assignments specific to this course.