



# VIRGINIA BEACH CITY PUBLIC SCHOOLS CHARTING THE COURSE

## *Department of Teaching & Learning Parent/Student Course Information*

### *Environmental Science (SC4320) One credit, one year Grade 9*

*Counselors are available to assist parents and students with course selections and career planning. Parents may arrange to meet with the counselor by calling the school's guidance department.*

#### **COURSE DESCRIPTION**

Environmental Science is the study of the effects of natural and unnatural processes, and interactions of the physical components of the planet on the environment. Throughout Environmental Science, students will explore various topics including the physical world, the living environment, resource conservation, humans' impact on the environment, and legal and civic responsibility. Through descriptive and comparative studies, as well as hands on investigations, students will explore the interactions of living and nonliving components of the environment. Meaningful watershed educational experiences will be a key component of this course. Emphasis will be placed on how individuals can make a difference in preserving our environment both now and in the future. There is no associated Standards of Learning (SOL) test for Environmental Science. This course may count as an Earth Science credit.

#### **COURSE GOALS**

Environmental Science will assist students in preparing for success by addressing gaps in learning for both Earth Science and Biology courses, as well as, support the development of knowledge throughout a broad range of other fields and interest. Environmental Science will also provide students with the skills and content necessary for them to look at environmental issues through a critical lens and to provide a platform to make informed decisions for a sustainable future.

Along with the fundamentals of Earth Science and Biology, students will be able to:

- Demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations.
- Identify external and internal factors that affect the environment and the organisms living in it to look for solutions to environmental problems.
- Explore the local environment through a sustainability lens, while focusing on community defined needs.
- Engage in service-learning projects.

#### **PREREQUISITE**

Grade 8 - Advanced Science 7 or successful completion of the Physical Science modules, as well as take the Grade 8 Science Standards of Learning test.

High School – None

#### **OPTIONS FOR NEXT COURSE**

Biology

Earth Science

#### **REQUIRED STUDENT TEXTBOOK**

VBCPS Environmental Science FlexBook

#### **MINIMUM REQUIREMENTS**

- Demonstrate knowledge and understanding of all core objectives through laboratory investigations, issue investigations, projects, oral and/or written tests, quizzes and reports
- Participate in the core laboratory experiences and adhere to all safety procedures
- Prepare written reports for core laboratory activities
- Investigate and report on an issue of local, regional, national or global concern; suggest possible solutions; design a plan of action for solving the problem
- Design and conduct at least one experiment; interpret and report the results
- Investigate and report on career opportunities and areas of interest in environmental science
- Read and share current literature on relevant topic

***The Knowledge, Skills and Attitudes that Comprise the Environmental Science Course are summarized as follows from the prescribed curriculum:***

- Demonstrate an understanding of the nature of science and scientific reasoning and logic.
- Plan and conduct investigations in the classroom and field.
- Demonstrate safe practices in the classroom, laboratory and field.
- Analyze current environmental issues and apply the process of engineering design in order to propose feasible solutions.
- Use mathematical reasoning and processes to understand error, probability of independent and dependent events, and infer proportions in a whole from those in a representative sample.
- Demonstrate safe practices in the classroom, laboratory and field.
- Investigate and understand the fundamentals of matter and its interactions.
- Investigate and understand how matter flows in the fundamental processes of Earth systems.
- Investigate and understand Earth's resources (renewable/nonrenewable; advantages and disadvantages).
- Investigate and understand conservation of Earth's resources.
- Investigate and understand pollution and waste management.
- Investigate and understand the major processes and systems that form Earth, including how water, living things, and rock act together to shape landforms.
- Investigate and understand civic responsibility and environmental policies.
- Investigate and understand global climate change.
- Describe stability and change as it relates to both populations and ecosystems.
- Investigate and understand the human impact on our environment.

**CORE AREAS FOR LABORATORY EXPERIENCES**

- Safety
- Meaningful watershed educational experiences (MWEE)
- Conservation of energy and matter
- Water properties and water quality
- Carbon cycle
- Mining
- Porosity and permeability
- Groundwater
- Climate change
- Population growth
- Carrying capacity
- Topographic maps
- Energy transfer
- Pollution
- Plate tectonics
- Food webs
- Resource management

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Produced by the Department of Teaching and Learning.  
For further information, please call (757) 263-1070.

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Title IX Notice: Complaints or concerns regarding discrimination on the basis of sex or sexual harassment should be addressed to the Title IX Coordinator, at the VBCPS Office of Student Leadership, 641 Carriage Hill Road, Suite 200, Virginia Beach, 23452, (757) 263-2020, [Mary.Dees@vbschools.com](mailto:Mary.Dees@vbschools.com) (student complaints) or the VBCPS Department of School Leadership, 2512 George Mason Drive, Municipal Center, Building 6, Virginia Beach, Virginia, 23456 (757) 263-1088, [Elizabeth.Bryant@vbschools.com](mailto:Elizabeth.Bryant@vbschools.com) (employee complaints). Additional information regarding Virginia Beach City Public Schools' policies regarding discrimination on the basis of sex and sexual harassment, as well as the procedures for filing a formal complaint and related grievance processes, can be found in School Board Policy 5-44 and School Board Regulations 5-44.1 (students), School Board Policy 4-4 and School Board Regulation 4-4.3 (employees), and on the School Division's website at Diversity, Equity and Inclusion/Title IX. Concerns about the application of Section 504 of the Rehabilitation Act should be addressed to the Section 504 Coordinator/Executive Director of Student Support Services at (757) 263-1980, 2512 George Mason Drive, Virginia Beach, Virginia, 23456 or the Section 504 Coordinator at the student's school. For students who are eligible or suspected of being eligible for special education or related services under IDEA, please contact the Office of Programs for Exceptional Children at (757) 263-2400, Plaza Annex/Family and Community Engagement Center, 641 Carriage Hill Road, Suite 200, Virginia Beach, VA 23452.

The School Division is committed to providing educational environments that are free of discrimination, harassment, and bullying.

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Alternative formats of this publication which may include taped, Braille, or large print materials are available upon request for individuals with disabilities. Call or write the Department of Teaching and Learning, Virginia Beach City Public Schools, 2512 George Mason Drive, P.O. Box 6038, Virginia Beach, VA 23456-0038. Telephone 263-1070 (voice); fax 263-1424; 263-1240 (TDD) or email him at [Keith.Goodman@vbschools.com](mailto:Keith.Goodman@vbschools.com).

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(revised August 2021)