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The mission of The Birches Academy is to cultivate a learning community that promotes excellence in core academics and the arts while valuing the individual qualities and strengths of each child.

Grade 6 at a Glance

ENGLISH LANGUAGE ARTS

The language arts curriculum is aligned to the ELA Common Core (<http://www.corestandards.org/ELA-Literacy/>), which outlines grade-level expectations in the form of standards. The grade-specific standards are categorized as reading, writing, language and speaking and listening. Students engage in a variety of activities while building language arts skills through an arts integration approach to learning.

The teachers at Birches Academy utilize a variety of instructional strategies and multiple resources to meet the needs of all learners. These strategies include mini-lessons, small group instruction, independent reading and writing sessions, which focus on process. Students enrolled in The Birches Academy of Academics and Art can expect to develop proficiency in all four areas of the Common Core as they advance through the grade levels.

Overview of Expectations

- Read a story or informational text and learn to analyze and make inferences.
- Consider literature from different genres and compare and contrast a theme or topic.
- Differentiate between figurative and connotative meanings.
- Demonstrate the proper use of English grammar and punctuation.
- Write a variety of pieces ranging from arguments to narratives and informative.
- Examine the process of writing with a focus on organization, style, draft and revision.
- Explore the use of technology and the opportunity to collaborate in the completion of a project-based assignment.
- Engage in collaborative discussions and prepare articulate ideas, claims and findings.



MATHEMATICS

The mathematics curriculum is aligned to the Mathematics Common Core (http://www.corestandards.org/wp-content/uploads/Math_Standards.pdf) with a focus on concept development, big ideas and essentials of understanding. The Mathematics Common Core is comprised of strands and specific grade-level standards that define what students should know and be able to do. The grade 6 mathematics strands include ratio and proportional relationships, number system, expressions and equations, geometry, statistics and probability.

The instructional resource in grades 1 through grade 6 is Pearson *EnVision Math*. Teachers combine instruction with hands-on activities where students begin to develop a conceptual understanding of foundational mathematics, learn basic computational skills, engage in practice and apply knowledge to solve problems. The instructional approach allows for the daily reinforcement of basic skills as students gain a greater understanding of each strand and demonstrate proficiency in grade-level expectations. Based on assessment student may engage in advanced mathematical studies consistent with the learning progression.

Overview of Expectations

- Explore ratio and use reasoning to solve problems.
- Divide fractions by fractions.
- Add, subtract, multiply and divide multi-digit numbers.
- Practice finding common factors and multiples.
- Write algebraic expressions and solve one-variable equations and inequalities.
- Compare and contrast dependent and independent variables.
- Practice problem solving for area, surface area, and volume.
- Explore statistics and consider variability and distribution.

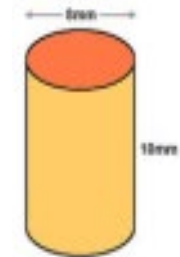
$$3x - 2(-2x + 7) = -7$$

$$2 \quad 4 \quad 6 \quad 8 \quad 10 \quad 12$$

$$3 \quad 6 \quad 9 \quad 12 \quad 15 \quad 18$$

$$7y + 7 = 28$$

Solve for y.....

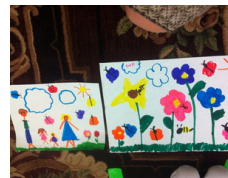


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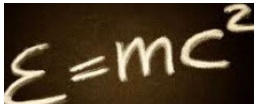
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SCIENCE

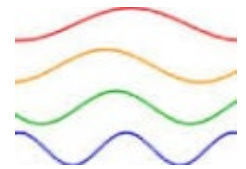


The science curriculum is aligned to the Next Generation of Science Standards (<http://www.nextgenscience.org/next-generation-science-standards>), a framework for K-12 Science education developed through a collaborative process. The framework is comprised of three disciplinary areas including physical science, life science, and Earth and space science where instruction is guided by grade-level performance expectations. A fourth area—engineering, technology and applications of science—identifies performance expectation by grade span.

The focus of study in grade 6 is the physical sciences including an introduction to chemistry, forces and motion, and ecosystems and ecology. Science instruction combines classroom discussion, hands-on activities, experiments and research. The science instructional resource, Pearson *Interactive Science*, provides for a blended learning experience and features write-in student modules along with an e-learning digital path.

Overview of Expectations Physical Science

- Explore the law of conservation of mass and relate to the atomic composition of simple molecules.
- Observe changes in a chemical reaction when mixing two or more substances.
- Describe the characteristics of the loss or the addition of energy in a chemical reaction.
- Apply Newton's third law
- Investigate electric and magnetic forces.
- Compare and contrast kinetic and potential energy; gain an understanding of energy transfer.
- Investigate waves—amplitude, reflection, absorption and transmission.
- Explain the transmission of information with analog signals versus digital signals.



Life Sciences

- Identify the availability of resources and its affects on an ecosystem.
- Explain the patterns of interactions among organisms across multiple ecosystems.
- Describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.

Engineering Design

- Develop a solution to a design problem considering materials and constraints.



SOCIAL STUDIES

The social studies curriculum is aligned to the New Hampshire State Curriculum Framework for Social Studies (http://www.education.nh.gov/instruction/curriculum/social_studies/documents/frameworks.pdf). The Framework is divided into five content strands including civics, economics, geography, New Hampshire and United States history, world history and contemporary issues. Instruction combines classroom discussion, project-based learning, current topics in history and research.

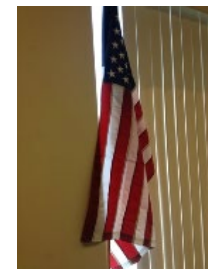
Overview of Expectations

Civics and Government

- Compare and contrast different forms of government including monarchy, oligarchy and democracy.
- Understand the need for countries to interact with each other culturally, economically, diplomatically and/ or militarily.
- Identify reasons for conflicts between countries and cite examples of past conflicts.

World History

- Describe political systems created by people such as tribes, empires and nations.
- Explore the use and abuse of power.
- Assess the impact of land and water routes on trade.
- Describe the major migrations of people across the globe.
- Follow the spread of world religions including Judaism, Christianity and Islam.
- Discuss the impact of education on societies.
- Discuss the tension over land use citing specific examples.
- Consider advancements in technologies on the agricultural system and the benefits.
- Identify improvements in communications and the impact on ancient and modern- day civilizations.



ART

The art program provides students with an introduction to the arts and art forms. Students engage in assignments that require refinement of techniques and creativity by building on vocabulary, learning the color wheel and making inferences between color and emotions or moods.

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Overview of Expectations

Colors and the Color wheel

- Explore primary colors and mix colors to create new tones and shades.
- Use colors to express emotions and reflect moods.

Painting

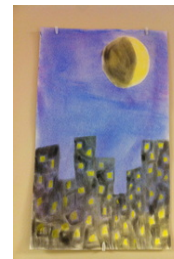
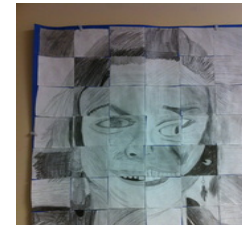
- Create cave paintings depicting evidence of man through archeology.

Drawing

- Learn techniques in perspective by drawing on a grid.

Construction Studio

- Build roller coasters using various materials and techniques.



MUSIC

The music program is designed to instill a love of music and an introduction to the art of music. Students continue with the study of a second instrument such as the banjo, violin, cello or keyboard. Chorus is open to all grade 6 students as an elective class. During this time, students develop the skills necessary for good vocal production and ensemble singing. Students engage in general music instruction as a class on a weekly basis. Teachers collaborate ensuring that students have every opportunity to express thoughts and ideas through music and the arts.



Overview of Expectations

- Study music as a subject and develop skill in reading music.
- Select a second instrument to learn to play.
- Gain an understanding of musical elements including rhythm, melody, harmony and style.

FOREIGN LANGUAGE

The Grade 6 Foreign Language program prepares students for a course that is equivalent to a high school level 1 Spanish program. There is an emphasis on grammar, conversation and culture.



Overview of Expectations

- Learn conversational phrases, greetings, emotions and feelings.
- Explore the vocabulary of restaurants, grocery and clothes shopping and going around town.
- Talk about family and friends with each other.

iHola!

PHYSICAL EDUCATION

Students participate in age appropriate, safe and effective physical activities based on the New Hampshire K-12 Physical Education Curriculum Guidelines. The program encourages students to perform a variety of physical activities that focus on building motor skills and the qualities of movement. A pre and post "Pacer" assessment is conducted to determine cardiovascular endurance. This assessment demonstrates student growth and indicates what students need to improve on and/or maintain for physical health and well-being.

The content has been curated from the Common Core ELA and Math, Next Generation Science Standards (NGSS), and the K-12 NH Social Studies Curriculum Framework (July 2014).