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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 4 and 5 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 & 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 resources and strategies to meet the needs of all learners. The instructional resources include: *Six Traits of Writing*, *Benchmark's Writers Workshop* and the *Fountas & Pinnell Leveled Literacy Intervention System*. The strategies include mini-lessons, small group instruction, independent reading, a guided reading program and the six traits writing process. Students enrolled at Birches Academy of Academics and Art can expect to progress through the grades while developing proficiency in all four areas of the Common Core.

### Overview of Expectations

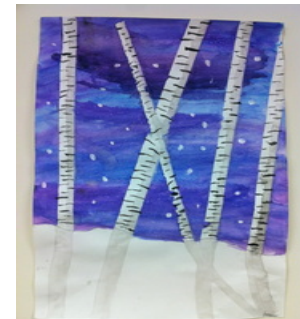
#### Year A and Year B

- Demonstrate an ability to read accurately with expression and understanding.
- Write in journals, respond to open response questions and write essays demonstrating use of grammar and punctuation.
- Provide examples of antonyms (opposites) and synonyms (similar but not identical words).
- Learn to summarize information from a text or journal.
- Read a story and be able to identify characters, setting and event in a story or drama.
- Compare and contrast two pieces of prose or poetry.
- Engage in collaborative discussions
- Speak clearly and at an appropriate pace for understanding.

**HOT** or **COLD**

**COOL** or **COLD**

**THICK** or **THIN**



## MATHEMATICS

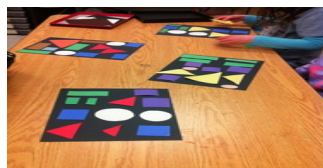
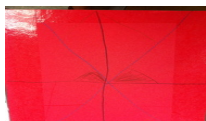
The mathematics curriculum is aligned to the Mathematics Common Core (<http://www.corestandards.org/Math/>) with a focus on concept development, big ideas and essentials of understanding. The Mathematics Common Core is comprised of strands and specific grade-level standards that define what students should know and be able to do. The grade 4 and 5 strands include: operations & algebraic thinking, numbers & operations in base ten and fractions, measurement & data and geometry. The instructional resource for grades 1 through grade 6 is Pearson *EnVision Math*.

Teachers combine instruction with hands-on activities where students 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, students may engage in advanced mathematical studies consistent with the learning progression.

### Overview of Expectations

#### Grade 4

- Solve problems using addition, subtraction, multiplication and division.
- Begin to use factors.
- Demonstrate an understanding of place value with two and multi-digit numbers.
- Compare fractions and its decimal equivalent.
- Solve problems of measurement.
- Make unit conversions.
- Explore a variety of angles and measure.
- Identify shapes



#### Grade 5

- Create numerical expressions.
- Identify patterns and relationships.
- Demonstrate an understanding of place value with decimals to hundredths.
- Multiply and divide fractions.
- Graph points and solve problems.
- Categorize two-dimensional figures based on properties.

2 4 6 8 10 12

5 10 15 20 25

$\frac{1}{2}$  1 1  $\frac{1}{2}$  2

## 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 & 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 grades 4 and 5 is the Earth, its structure and landforms, biomes and ecosystems. 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

#### Year A

##### Physical Science

- Relate the speed of an object to its energy.
- Investigate the transfer of energy by heat, sound, light and electric currents.
- Describe wave patterns including amplitude and wavelength.
- Explain the role of light in seeing objects.

##### Life Science

- Describes structures in plants and animals that support survival.
- Explain how animals receive, process and respond to simulation

##### Earth and Space Science

- Explore the rate of erosion by water, ice, wind, or vegetation.
- Analyze data from maps to describe Earth's landforms.
- Understand that fuel and energy comes from the Earth.

#### Year B

##### Physical Science

- Understand that matter is made of small particles.
- Explain the theory of conservation of matter.
- Identify materials based on their specific properties.
- Describe gravity and the concept of gravitational pull.
- Explain how energy in food was once radiant energy.

##### Life Science

- Explore the source of materials of life for plants.
- Follow the recycle of matter in the environment.

##### Earth and Space Science

- Understand the relationship between the brightness of a star and its distance from the sun.
- Record daily changes in length and direction of shadows.
- Compare the seasonal changes in the length of a day.
- Identify the availability of fresh water on Earth.

##### Engineering Design

- Identify a problem, consider resources and constraints and create a solution.

## 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](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. The grade 4 curriculum focuses on economics while in grade 5 the emphasis is on American history.

### Overview of Expectations

#### Year A

##### Economic

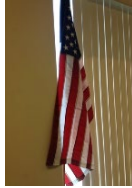
- Explore the ideals of a free market.
- Understand the purpose of money and barter.
- Explain the effects of shortage and surplus on the price and availability of goods and services.
- Compare and contrast imports and exports.

##### Geography

- Describe the use of maps, graphs, and satellite images.
- Explore transportation routes and associated costs.
- Locate physical features and mountain ranges, parallels and meridians on the Earth.
- Compare and contrast the distribution of populations in rural, suburban and urban areas.

##### World History

- Describe the contribution of various ethnic and religious groups on New Hampshire's history and culture.
- Consider some reasons for the immigration of people to the United States.



#### Year B

##### Civics and Government

- Describe the various types of government worldwide.
- Discuss the core ideals and principles of the American government.
- Identify the influence that the early settlers had on the establishment of a democracy in the United States.

##### US and NH History

- Identify ethnic populations and the influence on art, music and literature.
- Describe the westward movement and how it contributed to a more diverse economy.
- Examine the role of women in business and government and the impact on life in the United States.
- Consider changes in economic productivity or the advancement in technology and its effects on the economy.
- Understand the improvements in agriculture and effects in feeding the world's hungry and survival.



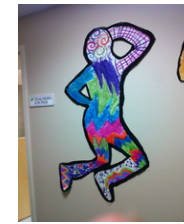
# ART

The art program provides students with an introduction to the arts and art forms. Students build on vocabulary, the color wheel, mixing colors and making inferences between color and emotions or moods. Mediums, textures and artist tools continue to be of importance to the further study of art. Teachers work collaboratively with the art teacher to give students every opportunity to express thoughts and ideas through the arts.

## Overview of Expectations

### Colors and the Color Wheel

- Explore the primary colors - red, blue, green and yellow.
- Mix colors to make orange, purples, green and other colors.
- Correlate color to moods and emotions.



### Drawing

- Learn to observe and record the body through gestural drawings.
- Explore contour, blind contour and upside down drawings.

### Painting

- Replicate the symbols and animals in the caves of Lascaux, France.

### Collage

- Learn techniques of collage with a focus on tactile and visual texture.



### Printmaking

- Explore Egyptian Hieroglyphic and create a print.

### Construction Studio

- Create a Roller coaster using various materials and form, integration with science.



## MUSIC

The music program is designed to instill a love of music and an introduction to the art of music. Students continue to study the Ukulele or may choose a different string or percussion instrument. All students attend a weekly chorus class with a focus on developing skills for good vocal production and ensemble singing of choral literature age appropriately arranged. Students enjoy participating in vocal music and work cooperatively with other students as well as serve the school by participating in selected performances. Teachers collaborate ensuring that students have every opportunity to express thoughts and ideas through music and the arts.

### Overview of Expectations

- Develop an independent singing voice and engage in unison, rounds and partner songs.
- Learn to read and write melodic and rhythmic notation.
- Understand basic music concepts and build on the vocabulary of music.
- Continue the study of the ukulele or another instrument.



## FOREIGN LANGUAGE

The Grade 4 and 5 foreign language program provides an introduction to the Spanish language. There is a focus on vocabulary and early conversation to build a foundation for the study of languages, and an appreciation of new cultures.

- Learn vocabulary - colors, numbers, days of the week, months of the year, foods, the body, animals, weather and clothing.
- Understand the rules of basic grammar, pronunciation, and sentence structure.
- Explore the Spanish culture.



**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.

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