

# Princeton Charter School

## Grade Four Program

### English Language and Literature: Grade Four

The goal of the English language and literature program is to improve each student's fluency in reading, writing, listening, and speaking.

#### Course Content

**Literature and Reading Comprehension:** Introduction to critical reading with selections from classic children's literature: adventure and animal stories, non-fiction, poetry, and folk literature from around the world. Students identify story structure, examine cause-effect relationships, and distinguish fact from fiction.

**Expressive and Expository Writing:** Writing assignments emphasize the construction of an introduction, a body, and a conclusion in expressive and expository composition. Techniques like summarization and dialogue are introduced and used. The formal writing process (outlining, drafting, revising, and editing) is emphasized.

**Grammar, Syntax, and Language Mechanics:** Students analyze the structure of simple sentences, and study parts of speech, agreement, verb tenses, and punctuation.

**Vocabulary and Spelling:** Spelling work uses phonetic patterns and letter clusters, and introduces derivatives, roots, and morphemes as tools. Students continue to refine their handwriting and expand their vocabulary.

**Listening and Speaking Skills:** Students take notes, participate in class discussions, and give two- to three-minute oral reports.

**Research and Study Skills:** Students learn to paraphrase; use a thesaurus; use the library to support written and oral assignments; and use multiple sources and a bibliography for reports.

**Homework:** Students have daily assignments amounting to 20-30 minutes per night in reading, writing, vocabulary, grammar, or spelling as follow-up or preparation for each class period. Students are given frequent writing assignments for which they make notes and produce an outline, rough draft, revision, and edited version. There are occasional book reports and simple research reports.

**Tests and Major Projects:** Weekly spelling quizzes; unit tests; reading and writing evaluations. Occasional book reports, writing projects, and simple research reports will be assigned.

**Grading:** Classwork, homework, quizzes, tests, participation in discussions, major projects, and presentations. Opportunities for revision of written work will be given.

#### Books:

##### Writing Program

*Units of Study for Teaching Writing, Grades 3-5*, Lucy Calkins and the Units of Study Coauthors, First Hand.

**Anthologies:**

*Collections for Young Scholars, Student Anthology Volume 4, Book 1: Risks and Consequences, Business, Surviving; Volume 4, Book 2: Medicine, Technology; Volume 4, Book 3: Colonial Life*, plus associated workbooks, Open Court.

**Grammar:**

*Houghton Mifflin English, 5*, Houghton Mifflin.

**Workbooks:**

*Write Traits*, Vicki Spandel and Jeff Hicks, Great Source.

*Cursive Success*, Jan Olsen, Handwriting Without Tears. C. S. Hackney.

*McDougal, Littell Spelling 5*, D. Bohlen and C. McConnell.

*Wordly Wise, Book 1*, Educators Publishing Service.

**Literature:**

*Sunder*, William Howard Armstrong

*The Trouble with Jenny's Ear*, Oliver Butterworth

*The Sign of the Beaver*, Elizabeth George Speare

*Charlotte's Web*, E. B. White

*Little House on the Prairie*, Laura Ingalls Wilder

*George Washington's Socks*, Elvira Woodruff

*A Child's Anthology of Poetry*, Elizabeth Hauge Sword, ed.

**Supplemental Reading:**

*On my Honor*, Marion Dane Bauer

*Caddie Woodlawn*, Carol Ryrie Brink

*George's Marvelous Medicine*, Roald Dahl

*The Iron Giant: A Story in Five Nights*, Ted Hughes

*Far North*, Will Hobbs

*From the Mixed-up Files of Mrs. Basil E. Frankweiler*, E. L. Konigsburg

*The Lion, the Witch and the Wardrobe*, C. S. Lewis

*Pippi Longstocking*, Astrid Lindgren

*Kid Power*, Susan Beth Pfeffer

Biographies of American Statesmen

**Mathematics: Grade Four**

The goals of the grade-four course are:

- to develop mathematical reasoning and communication skills;
- to build fluency in numerical operations with whole numbers, commonly used fractions, and decimals;
- to analyze and to describe geometric shapes in terms of their properties;
- to use graphs for data organization and analysis; and

- to build a mathematical vocabulary.

## Course Content

**Number Sense:** Base-10 place value concepts; decimals; expanded notation; rounding; integers; fractions; money; negative numbers; prime numbers and factors.

**Geometry and Spatial Sense:** Properties of two- and three-dimensional shapes; perimeter; area; congruence, similarity, and symmetry; rotation, translation, and reflection; geometric terms.

**Numerical Operations:** Properties of operations; computational procedures; inverse operations; operations with commonly used fractions and decimals.

**Measurement:** Measurement units and tools; standard units; estimation.

**Estimation:** Computational estimates; comparisons; when estimation is appropriate or useful.

**Patterns and Functions:** Construct, recognize, extend, and describe patterns using tables, rules, variables, and graphs; input-output relationships.

**Probability and Statistics:** Analyze data generated by chance devices; simple events; equally likely outcomes; fair and unfair games; sampling; formulate and check hypotheses based on data; create, read, interpret, and translate between different types of graphs.

**Algebra:** Represent an arithmetic relationship with an equation or inequality using a variable; translate between number patterns expressed with objects or tables to graphs, rules, or equations.

**Discrete Mathematics:** Systematic counting to determine the number of outcomes, combinations, arrangements, or paths; tree diagrams; classification and sorting by attributes; simple algorithms.

**Conceptual Building Blocks of Calculus:** Patterns that continue indefinitely; infinity; linear growth; area; volume; subdividing a complex figure.

## Textbooks:

*New Jersey HSP Math, Grade 4*, Harcourt, Inc.

Supplemental Materials: *Primary Mathematics Challenging Work Problems, Level 4*, Joseph D. Lee, Singapore Math.

**Homework:** Students have daily assignments amounting to 20-30 minutes per night to review and practice what they have learned in class.

**Tests:** Quizzes are given approximately once per week, and tests are given at the end of each chapter and at the end of the year.

**Grading:** Quarterly grades are based on homework completion, quizzes, tests, participation in discussions, and any projects assigned.

## United States History and Geography: Grade Four

This course is an introduction to the history and geography of the United States and New Jersey, including the political, economic, cultural, and technological forces which have shaped the course of events. During the year, students will compare their own lives with the lives of people in the periods studied. The curriculum is directed toward the following outcomes:

- the student’s acquisition of a “vocabulary” of historical and geographical facts (people, places, events, chronologies);
- the development of the student’s ability to think, imagine, and communicate – especially in writing – about the lives of the people they study;
- the development of the student’s ability to recognize primary historical sources, and to understand how primary sources are used by historians to construct “narratives” of the past.

### Course Content

**The U.S.: Past and Present:** What historians study; map skills; the distinction between primary and secondary sources; the nature of American diversity.

**Exploring and Settling America:** Native Americans; Spanish, French, and English explorers; early European settlements.

**Life in the English Colonies:** Comparison of life in the New England, middle, and southern colonies; the different economies of these regions.

**The Struggle for Independence:** The conflict with Britain as one part of a larger series of world events; the American Revolution; the founding of the government of the new nation.

**Life in a Growing Nation:** Early Struggles and expansions; the Lewis and Clark expedition; the fate of the native population.

**New Jersey State History:** Geography of New Jersey: regions, resources, climate; Native Americans: the Lenni Lanape; European explorers and settlers; The American revolution; Modern New Jersey; New Jersey government and economy.

### Books:

Textbook: *United States History*, Houghton Mifflin, 2005.

Textbook: *New Jersey Studies*, Houghton Mifflin, 2005.

Atlas: *The Nystrom Desk Atlas*, Nystrom.

Almanac: *The World Almanac for Kids*, World Almanac Books.

*Sarah Morton’s Day*, Kate Waters.

*Samuel Eaton’s Day*, Kate Waters.

**Homework:** Students have reading assignments as preparation or follow-up for class; they also read biographies and historical fiction. Homework activities include analytical writing, creative writing, making time-lines, and using maps.

**Tests and Major Projects:** Tests are given at the ends of units. Projects include simple research reports, book reports, and dramatizations.

**Grading:** Homework, quizzes, tests, participation in discussions, major projects, and presentations. Opportunities for revision of written work will be given.

## Science: Grade Four

In fourth grade, the science program centers on activities through which students are expected to learn how to:

- design and conduct experiments;
- use measurements and the metric system in the course of experiments;
- record and graph data;
- work with independent and dependent variables;
- apply mathematics to analyze the experiments;
- use data and analysis to make predictions; and
- write lab reports following the scientific method.

Students investigate **Variables** through the following activities:

**Swingers** introduces variables through experiments with pendulums. Students investigate which variables (weight, length, etc.) affect the period of the pendulum.

**Lifeboats** uses paper cup boats and penny passengers to study buoyancy.

**Plane Sense** has students construct airplanes and determine what variables affect the flying performance.

**Flippers** requires launching objects with a catapult and the investigation of variables that affect the trajectories.

Students investigate **Environments** through the following activities:

Students build a **Terrestrial Environment** to observe interactions and relationships on land.

In **Water Tolerance** students grow four plants and subject them to different amounts of water to discover each plant's tolerance.

Students study **Isopods and Beetles** to determine preferences between moist environments that are dry or dark.

In **Aquatic Environments** students systematically introduce organisms into a freshwater aquarium while monitoring environmental factors including the water's acid content.

Students **Hatch Brine Shrimp** in four controlled salt concentrations to investigate the range of salt tolerance for the eggs.

In **Salt of the Earth**, students grow plants in water with four different salinities to determine salt tolerance and good conditions for growth.

Students investigate **Levers and Pulleys** to learn the fundamental concepts of simple machines.

In **Levers**, students investigate the fulcrum, effort, and load of a lever. They draw and graph results of experiments with a spring scale to illustrate relationships between the parts of the lever.

In **More Levers**, students investigate the mechanical advantage of the three types of levers which differ in the arrangement of the fulcrum, load, and effort.

In **Pulleys**, students set up and diagram single- and multiple-pulley systems. They use a scale to quantify the effort and mechanical advantage.

in **Pulleys at Work**, students record and graph four pulley systems to determine the relationship between the number of ropes pulling on the load and the effort needed to lift it.

Students study the **Human Circulatory and Respiratory Systems** to learn about how their bodies work.

#### **Instructional Materials:**

*Full Option Science System*, Lawrence Hall of Science, University of California, Berkeley.

## **French Language: Grade Four**

The goals of the French language program for grade four are for students to:

- develop a positive attitude and acceptance of personal responsibility for learning;
- use a variety of strategies that enable them to comprehend and use written and spoken French;
- complete authentic tasks and projects involving communication entirely in French;
- increase their general knowledge by using French as a vehicle for learning across the curriculum; and
- gain insights into English and French cultural and linguistic similarities and differences as reflected in the languages.

The textbooks for grade four, *Visages - I* and *Visages - II*, are comprised of thematic units, each of which focuses on a different set of communicative activities; listening, reading, speaking, and writing are all represented and incorporated into every unit. The themes are relevant because they are appropriate to the age, interest, and intellectual level of the students; the themes are authentic so that the students perceive the learning imparted by the theme as worthwhile, necessary, and real. Grammar is not taught as a separate lesson, but as part of a communicative context. The students are given ample opportunity for practice and integration of the grammar concepts taught.

Classes are conducted *only* in French, and meaning is conveyed through the use of visuals, body language, and role-playing. The students therefore actively engage in a variety of learning experiences using French.

#### **Course Content**

**Communication** - The students learn to describe shapes, the surrounding environment (nature, animals, etc), and the characteristics of an island and a forest. They learn to classify animals, and to describe life cycles. They describe feelings and physical and psychological characteristics. The students also study French maps and use map legends in French. They learn to order food, talk about anatomy, discuss class schedules, and describe endangered animals. They read and recite poetry, and read about and describe regions of Quebec and France. One project involves making a time-line that represents the history of flight and presenting it to the class. Students use their communication skills in puppet shows, skits, and oral presentations to an audience.

**Writing** - Students write newspaper articles about heroes and produce a newspaper in French. They write simple stories, advertisements, scripts for shows and skits, and descriptive paragraphs.

**Grammar** - Students learn the present, past and future conjugation of common verbs, conjugate in present tense verbs in all four classes, expand their knowledge of present tense of irregular verbs, and learn the imperative of -er verbs. Students learn idioms with the verbs “faire,” and “avoir,” etc. They use the imperative case and negative structure properly. They use the personal, demonstrative, and interrogative pronouns, and improve their knowledge of accord of adjectives, possessive adjectives, and pronouns. Their grammar work includes prepositions.

**Vocabulary** - New vocabulary is introduced weekly, decoded, and used in class in drills and sentences. Students memorize the new vocabulary and use it in their own sentences. The vocabulary the students acquire throughout the year covers words and expressions related to making choices and decisions, expressing feelings and attributes, going places and doing things, and discovering our world. Students also acquire science and art-related vocabulary. Pronunciation is emphasized in every class and students memorize simple poems and songs to emphasize the sounds of French words and phrases.

**Culture** - Students expand their knowledge of the Francophone world; they learn about popular foods, school culture, and French poets and artists. They learn about French and Canadian heroes, and French and Canadian cultural dances

**Homework:** Students have daily assignments amounting to 15 minutes per night in reading, writing, vocabulary, or grammar, to practice the new lesson or concept learned that day. There are occasional projects that may require some work at home.

**Evaluation:** An integrated approach fosters language growth, encouraging students to develop reading, writing, speaking, and listening skills so that they increase their comprehension and become effective communicators of meaning. Strategies to measure and monitor student progress occur simultaneously with instruction. Ongoing evaluation creates the expectation in students that all activities are valuable and are monitored. Self-evaluation at the beginning, in the middle, and at the end of a theme assists students to see the “big picture” of their learning, to judge for themselves their progress towards objectives, and to plan for improvement. Self-evaluation sheets provide students occasions to celebrate achievements and to reflect on their own learning.

Class participation, a major key to success in French, is measured daily. Children are encouraged to answer as much as possible during class.

## **Milestones: Grade Four**

### **Biography Report (History and English)**

**Task:** Research a person from American history and write a paper on his or her life.

**Criteria:** Accuracy of information; complete bibliography; use of the five steps in the writing process; all grammar and spelling errors marked by teacher corrected.

### **Health and Nutrition Plan (Health, Science, and Mathematics)**

**Task:** Using guidelines and charts with baseline data on good nutritional and exercise practices, e.g., calories taken in and burned. Students plot their own exercise and diet practices for one week and prepare a written summary of results.

**Criteria:** Accuracy of baseline data and intelligibility of charts.