**CURRICULUM GUIDES FOR ELEMENTARY GIFTED & TALENTED PROGRAMS**

## 1. Grades K-3 (1 period/week)

i. Gifted Math (Grade K begins on or about February 1; Grade 1 begins on or about January 1; Grades 2 & 3 begin after October 1)

1. The gifted math unit was created for the kindergarten through third grade gifted and talented program of Greenwich Stow Creek Schools to provide extension and gifted activities in the academic content area of mathematics for those students who demonstrate a need for further challenge in this subject.
2. The lessons are designed to:
    1. Provide students with opportunities to develop mathematical skills at the appropriate levels to enable students to develop critical analysis, thoughtful synthesis, logical deduction, and insightful problem solving.
    2. Create an atmosphere in which teachers support students and students support one another in the exploration and discovery of mathematical concepts.
    3. Create opportunities to extend math concepts across a variety of curricular areas and across grade levels that connect math to the real world.
    4. Develop activities and cooperative situations to develop the metacognitive, temporal, spatial, and lateral thinking skills of students.

ii. Gifted Literacy (Grades K & 1 begin on or about February 1; Grades 2 & 3 begin after October 1)

1. The purpose of the gifted literacy program, created for the kindergarten through third grade gifted and talented program of Greenwich Stow Creek Schools, is to challenge the students identified as needing the greater challenge of the gifted literacy program. The students will be exposed to different genres of texts. Students will be expected to become independent and metacognitive readers through explicit instruction and consistent modeling of reading comprehension strategies. Readers will be expected to respond in discussion and writing in a more sophisticated way than their grade level peers.
2. These reading comprehension strategies for instruction include making inferences, formulating questions, making connections and comparisons, determining importance in text, creating mental images, and synthesizing information from different sources. Ultimately, the students will be responsible for sustaining meaningful discussions by applying the above comprehension strategies in reading and textual analyses.

## Grade 2 Primary Enrichment Program/PEP (3 periods/week)

i. "Rainforests: Environment, Ecology, and Extinction"

1. The purpose of "Rainforests: Environment, Ecology, and Extinction" is to foster an awareness of the characteristics, location, complexity, and importance of the world's tropical rainforests; to encourage students to value these biomes; to research the biodiversity and interdependence of plants and animals; to appreciate the cultures of indigenous peoples living in the rainforests; and to empower students to participate in projects to help protect these environments.

2. The goals of this unit are to develop critical thinking skills through analysis and evaluation of nonfiction and fiction texts as well as other media resources; to sharpen reasoning ability through independent and guided reading, auditory comprehension and discussion, and writing assignments; and to approach learning that incorporates interdisciplinary studies including language arts, literature, science, social studies, the arts, technology, and philosophy.

ii. "History and Principles of Flight"

1. The purpose of "History and Principles of Flight" is to engage students in learning and in applying the scientific method to things that fly. With a focus on 21st century skills, STEAM (science, technology, engineering, arts, and mathematics) activities are infused into interdisciplinary lessons connecting social studies, literature, and philosophy primarily investigating the history of manned flight.
2. Students will conduct experiments to understand the properties of air and four aerodynamic forces: lift, thrust, drag and gravity; devise and conduct experiments to test the flight capability of various objects; produce a comparative analysis of efficiency in terms of aerodynamic parameters; collect, organize, and interpret data to better understand the principles of flight; and use technology to analyze and interpret data, to conceptualize and evaluate problems and solutions, and to synthesize information for multimedia presentations.

**Grade 3 Primary Enrichment Program/PEP (3 periods/week)**

i. "Multicultural Fairy Tales"

1. The purpose of "Multicultural Fairy Tales" is to understand the historical and societal context which gave rise to folktales that remain part of our cultural and literary heritage in an approach that incorporates interdisciplinary studies including language arts, literature, science, social studies, the arts, technology, and philosophy.
2. After learning to differentiate various folklore categories (legends, myths, tall tales, fables, and fairy tales), students will understand that stories reflect the culture in which they're created and that they preserve and transmit the cultural values of a society. Students will explore literary elements in a variety of Cinderella tales (the oldest and most common fairy tale), and compare and contrast these components as well as theme and morals in Cinderella variants to more deeply understand the nature of folktales and the oral tradition of storytelling. Finally, students will create and present their own multimedia versions of a Cinderella tale.

ii. "Follow the Leader"

1. This unit was created to inspire leadership attitudes in students and to establish a culture of leadership that will continue throughout their lives. The lessons are designed to:

    a. Develop knowledge of self and others;
    b. Define leadership;
    c. Develop leadership skills and practices; and
    d. Practice leadership through service.

Familiar and lesser-known leaders in various fields are considered as well as the differing ways in which leadership may manifest itself in individuals.

2. Throughout this unit the skills of critical thinking (analysis, synthesis, application and evaluation) as well as the creative thinking skills (fluency, flexibility, elaboration, and originality) will be reintroduced and developed.

iii. "Dive In and Discover: Understanding the Scientific Method through an Investigation of Oceanography"

1. The lessons are designed to promote the development of skills upon which students may build as they explore the world of science in subsequent units. Oceanography ideally lends itself to such an investigation because it is an

amalgamation of the physical, chemical, biological, and geological sciences. Skills learned in this unit will have broad applicability to all further scientific study. The approach to learning incorporates interdisciplinary studies including language arts, literature, science, social studies, the arts, technology, and philosophy.

2. The unit culminates in an advocacy project wherein students can explore and apply their knowledge to impact others in a real-world manner. The extensive research that still needs to be done in exploring and understanding the ocean gives students an opportunity to envision themselves as important future contributors to this field.

4. **Grade 4 Realizing Excellence through Academic Challenge/REACH (4-5 periods/week)**

i. "American Foundational Documents and Landmark U.S. Law"

1. The purpose of the American Foundational Documents and Landmark U.S. Laws" curriculum is to prepare students to become knowledgeable and productive members of our country by introducing them to the rights and responsibilities of citizenship. It was designed in order for students to understand the creation and purpose of our government specifically; the political and human rights principles upon which America was founded; and the structural framework of the federal form of government as outlined by the Declaration of Independence, the Constitution, and the Bill of Rights. A study of the need for and nature of laws; a comparative survey of historical legal codes; and rulings in landmark U.S. Supreme Court cases are considered.

2. The goals of this unit are to compare and contrast the major types of government and the circumstances of their formation and purpose; to analyze primary source documents including, but not limited to, writings of the Founding Fathers, historical documents, literary works, and judicial decisions; to compare and contrast competing opinions of historical and political history; and to utilize laws, evidence, and other data to draw conclusions, to make an argument, and to respond persuasively both in writing and orally; and to approach learning that incorporates interdisciplinary studies including social studies, language arts, literature, the arts, technology, and philosophy.

ii. "The Human Brain: Its Structure and Function; The Mind, Intelligence, and Genius"

1. The purpose of "The Human Brain: Its Structure and Function; The Mind, Intelligence, and Genius" is to employ the scientific method in exploring the physical brain; to investigate the brain/mind dichotomy; to learn about key developments and theories in neuroscience; and to assess the theory of multiple intelligences. Further, the concept and characteristics of genius is considered using Gardner's examples of genius in the various intelligences and habits of thinking shared by individuals who historically have been considered to be geniuses.

2. The goals of this unit are to use the critical thinking skills of analysis, synthesis, evaluation, and application as applied to nonfiction texts including scientific research; to gain an understanding of the historical ideas about the brain through the ages; to use the process of firsthand inquiry through the dissection of the sheep brain; to become more divergent thinkers and support the skills of originality, fluency, flexibility, and elaboration through creating original products; to recognize characteristic features of their own preferred learning style and intellectual strengths and talents; to be able to investigate the nature of genius through reports and/or presentations on selected geniuses. The approach to learning incorporates interdisciplinary studies including language arts, literature, science, social studies, the arts, technology, and philosophy. iii. "Enigmas: Mysteries, Research, and Debates"

1. The purpose of "Enigmas: Mysteries, Research, and Debates" is to prepare students to locate, analyze, evaluate, and synthesize sources of information to support a specific point of view in a debate. The students will develop research skills using multiple sources of information supporting or disproving the existence of various phenomena.
2. The goals of this unit are to formulate hypotheses regarding the explanation of historical enigmas; to engage in brainstorming and categorization activities for creative and critical thinking; to research enigmas and the evidence to support or refute them; to prepare for debates using valid reasoning skills and information from research; and to prepare an oral presentation to explain an enigma. The approach to learning incorporates interdisciplinary studies including language arts, literature, science, social studies, the arts, technology, and philosophy.

5. **Grade 5 Realizing Excellence through Academic Challenge/REACH (4-5 periods/week)**

i. "Discoveries, Inventions, and Innovations"

1. The purpose of "Discoveries, Inventions and Innovations" is to introduce the concepts of knowledge, discovery, invention, innovation, and technology and the relationships between these concepts; to engage students in a variety of creative exercises to expand their inventiveness and creativity to solve specific problems within given parameters; to understand what motivates inventors; and to analyze and evaluate the cultural, historical, and technological context in which inventions are created. The approach to learning incorporates interdisciplinary studies including language arts, literature, science, social studies, the arts, technology, and philosophy.
2. Students will distinguish among inventions, innovations, and discoveries; apply critical and creative thinking to planning, creating, and evaluating original inventions/innovations; discuss, write about, and present research on the most important inventors and/or inventions throughout history and the implications of their inventions on culture and society; develop the creative thinking skills of

fluency, flexibility, originality, and elaboration and be able to apply those skills in a new context; compare and contrast the value of different inventions; and evaluate the usefulness and appeal of various intentions.

ii. "Science Fiction: Innovation and Imagination in a Genre of Literature and Film"

1. The purpose of the "Science Fiction" unit is to help students foster the skills of both critical and creative thinking through an in-depth analysis of science fiction stories in literature and film; the scientific underpinnings of science fiction; and the continuum of science fiction based on science fact. Students will be asked to imagine life on other planets and to explore the possibilities of space exploration, terraforming, extremophiles, and contagion control in the human colonization of extraterrestrial places.
2. Students will study the historical origins of science fiction as a genre; compare and contrast the writings of several science fiction authors and note the accuracy of their predictions and the message they chose to convey to readers/viewers. Analysis of the various literary elements constituting a science fiction story and strategies of cinematography with a major focus on theme will be undertaken. The approach to learning incorporates interdisciplinary studies including language arts, literature, science, social studies, the arts, technology, and philosophy.

6. **Grades K-5 G&T Science, Technology, Engineering, & Mathematics (STEM)**

i. The purpose of the G&T "Science, Technology, Engineering, & Mathematics (STEM) K-5" guide is to engage students in engineering design challenges that spiral in sophistication from Kindergarten through grade 5. The design concepts and parameters are related to the units for each respective grade level's G&T curriculum.

ii. Students will participate in the nonlinear engineer design process: identifying a problem or need; conducting research; generating alternative solutions; selecting the most appropriate plan; creating a prototype; testing, evaluating, and, if necessary, redesigning the prototype; and presenting final conclusions. Students will encounter challenges related to the real world and/or current issues requiring peer collaboration and an understanding of fundamental concepts in the disciplines constituting STEM.

7. **Grades 2-5 G&T Critical and Creative Thinking Strategies**

i. The purpose of "Critical and Creative Thinking Strategies" is to introduce the

specific components of creative and critical thinking and to engage students in a variety of activities to develop their understanding of, and mastery in, applying these skills.

ii. A wide variety of interdisciplinary challenges will ask students to employ and develop multiple strategies, alone and in combination, to solve problems in many forms. Students will have an opportunity to synthesize all of these skills in a culminating final project.

8. **Grades 2-5 G&T Philosophy**

i. The recently created unit "Philosophy," for students in the grades 2-5 Gifted & Talented programs PEP and REACH, was designed to engage students in the process of self-discovery and critical thinking about the individual, our society, and the world through the positing and pondering of fundamental, enduring questions. "Philosophy," derived from the Greek φιλοσοφία meaning "love of wisdom," seeks to inspire students to ask questions arising from their natural curiosity as children and their intellectual curiosity as gifted learners. Student activities and resultant discussions should achieve the highest levels of critical thinking since there are no absolute answers and the endeavor truly may be characterized as a pursuit of wisdom *per se* arising from a love of learning.

ii. Students will be engaged in developmentally appropriate investigations of key concepts, as well as historical categories and schools of thought, in philosophy. "Philosophy" unit lessons will create a learning environment wherein higher order reasoning, critical inquiry, and open discussions create intellectual pathways to consideration of grand, perennially intriguing questions and ideas associated with self-understanding as individuals; understanding our place in society; and understanding the influence and the impact of our varying perceptions of, and perspectives on, the world around us.

9. **Grades 3-5 G&T Creative Writing**

The purpose of the curriculum guide for the unit "Gifted & Talented Creative Writing, Grades 3 through 5" is to engage students in accelerated critical and creative thinking and writing in English language arts. The instruction is designed to survey poetry and short prose from a variety of historical periods and across cultures in order to establish a schema for further investigation of the critical methodologies for literary criticism. The lessons are designed to foster an understanding and appreciation of the craft of the poet in order to encourage students to create their own original poems and to share them through oral readings, by participating in writing contests, and/or through the creation of digital literary media.