

# **PARENT AND STUDENT GUIDE**

## *Seventh Grade Concepts and Skills*



Prepared by: Department of Curriculum and  
Instruction



## AMESSAGEFROMTHESUPERINTENDENT

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Dear Parents,

Welcome to another wonderful year of teaching and learning in Norfolk Public Schools! We are excited about joining with you to educate all students to be successful, productive contributors to society. We strive for all students to become powerfully literate. We have developed this parent guide to serve as a tool for you to stay involved in the learning process, and to assist you at home in strengthening your child's knowledge and skills in the core academic content.

This guide contains the state and local standards of learning in English, mathematics, science and history/social science. At the end of the guide, helpful hints for home are provided for you to use to enrich, enhance and strengthen your child's knowledge and skills in the various contents. Additionally, a calendar of important school dates is provided on the NPS website to help you keep track of holidays, early release days, parent conference day, and other important information.

Please use this guide at home as you partner with us in delivering a rigorous academic program to enable all students to become powerfully literate. If you need any assistance or additional ideas on how to use this guide or if you need other assistance with your child's education please contact your school. Finally, I look forward to working with you and the staff of Norfolk Public Schools to provide powerful teaching and learning opportunities to ensure the academic success of all of our students.

Sincerely,



Dr. Melinda J. Boone  
Superintendent of Schools

# What We Believe

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The mission of Norfolk Public Schools, the cornerstone of a proudly diverse community, is to ensure that all students maximize their academic potential, develop skills for lifelong learning and are successful contributors to a global society, as distinguished by:

- Courageous advocacy for all students
- Family and community investment
- Data-driven personalized learning
- Strong and effective leadership teams
- Shared responsibility for teaching and learning
- Access to rigorous and rewarding college and career readiness opportunities

## **Board & Division Priorities**

- Ensure full accreditation
- Increase academic achievement of all students
- Improve climate, safety & attendance
- Become a School Board of Distinction
- Promote Norfolk Public Schools to reflect outstanding accomplishments of staff, teachers and students
- Develop and coordinate a capital improvement plan for facilities and technology to enhance teaching and learning
- Attract, retain, and help to develop strong academic families and highly qualified teachers and staff

# ENGLISH

## **In SPEAKING, LISTENING, AND MEDIA LITERACY,** **your child will:**

- Give and seek information in conversations and in group discussions.
- Use oral vocabulary and style appropriate for listeners.
- Communicate ideas and information orally in an organized and succinct manner.
- Make statements to communicate agreement or tactful disagreement with others' ideas.
- Ask probing questions to seek elaboration and clarification of ideas.
- Identify the relationship between a speaker's verbal and non-verbal messages.
- Use language and style appropriate to audience, topic, and purpose.
- Identify persuasive messages and techniques in non-print media, including television, radio, and films.
- Distinguish between facts and opinions; evidence and inference.
- Use a variety of strategies to listen actively.
- Use verbal communication skills, such as word choice, pitch, feeling, tone, and voice appropriate for the intended audience.
- Use nonverbal communication skills, such as eye contact, posture, and gestures to enhance verbal communication skills.
- Compare and contrast a speaker's verbal and nonverbal messages
- Understand the elements of media literacy.
- Identify persuasive/informative techniques used in nonprint media including television, radio, video, and Internet.
- Distinguish between fact and opinion, and between evidence and inference.
- Describe how word choice and visual images convey a viewpoint.
- Compare and contrast the techniques in auditory, visual, and written media messages.
- Craft and publish audience-specific media messages.

**In READING/LITERATURE, your child will:**

- Use analogies, idioms, similes, and metaphors to extend understanding of word meanings.
- Read to determine the meanings and pronunciations of unfamiliar words and phrases within authentic texts.
- Identify word origins and derivations.
- Use roots, cognates, affixes, synonyms, and antonyms to expand vocabulary.
- Identify and analyze figurative language.
- Identify connotations.
- Use context and sentence structure to determine meanings and differentiate among multiple meanings of words.
- Extend general and specialized vocabulary through speaking, listening, reading, and writing.
- Read and demonstrate comprehension of a variety of fictional texts, narrative nonfiction, and poetry.
- Describe the elements of narrative structure including setting, character development, plot structure, theme, and conflict.
- Compare and contrast various forms and genres of fictional text.
- Identify conventional elements and characteristics of a variety of genres.
- Describe the impact of word choice, imagery, and literary devices including figurative language.
- Make, confirm, and revise predictions.
- Use prior and background knowledge as a context for new learning.
- Make inferences and draw conclusions based on the text.
- Identify the main idea.
- Summarize text relating supporting details.
- Identify the author's organizational pattern.
- Identify cause and effect relationships.
- Use reading strategies to monitor comprehension throughout the reading process.
- Read and demonstrate comprehension of a variety of nonfiction texts.
- Use prior and background knowledge as a context for new learning
- Use text structures to aid comprehension.

- Identify an author's organizational pattern using textual clues, such as transitional words and phrases.
- Draw conclusions and make inferences on explicit and implied information.
- Differentiate between fact and opinion.
- Identify the source, viewpoint, and purpose of texts.
- Describe how word choice and language structure convey an author's viewpoint.
- Identify the main idea.
- Summarize text identifying supporting details.
- Identify cause and effect relationships.
- Organize and synthesize information for use in written formats.
- Use reading strategies to monitor comprehension throughout the reading process.

**In WRITING, your child will:**

- Write in a variety of forms with an emphasis on exposition, narration, and persuasion.
- Identify intended audience.
- Use a variety of prewriting strategies including graphic organizers to generate and organize ideas.
- Organize writing structure to fit mode or topic.
- Establish a central idea and organization.
- Compose a topic sentence or thesis statement.
- Write multi-paragraph compositions with unity elaborating the central idea.
- Select vocabulary and information to enhance the central idea, tone, and voice.
- Expand and embed ideas by using modifiers, standard coordination, and subordination in complete sentences.
- Use clauses and phrases for sentence variety.
- Revise sentences for clarity of content including specific vocabulary and information.
- Edit writing for correct grammar, capitalization, punctuation, spelling, sentence structure, and paragraphing.
- Use a variety of graphic organizers, including sentence diagrams, to analyze and improve sentence formation and paragraph structure.
- Choose appropriate adjectives and adverbs to enhance writing.
- Use pronoun-antecedent agreement to include indefinite pronouns.

- Use subject-verb agreement with intervening phrases and clauses.
- Edit for verb tense consistency and point of view.
- Demonstrate understanding of sentence formation by identifying the eight parts of speech and their functions in sentences.
- Use quotation marks with dialogue.
- Use correct spelling for commonly used words.
- Use computer technology to plan, draft, revise, edit, and publish writing.

**In RESEARCH, your child will:**

- Collect and organize information from multiple sources including online, print and media.
- Apply knowledge of appropriate reference materials to produce a research product.
- Evaluate the validity and authenticity of sources.
- Use technology as a tool to research, organize, evaluate, and communicate information.
- Cite primary and secondary sources.
- Define the meaning and consequences of plagiarism and follow ethical and legal guidelines for gathering and using information.

## MATH

**In NUMBER SENSE, your child will:**

- Represent rational numbers in multiple forms (e.g. fractions as decimals, fractions as percent, etc.; include percent greater than 100 or less than 1).
- Compare, order, and determine equivalent relationships between fractions, decimals, percent and numbers written in scientific notation format.
- Identify and describe powers and square roots given a whole number from 0 to 400.

**In COMPUTATION AND ESTIMATION, your child will:**

- Model operations with integers
  - Solve problems involving operations with integers.
- Solve single and multi-step problems involving proportional reasoning.

- Solve real world problems involving fractions, decimals, whole numbers, integers, percents, and proportions.
- Apply proportions to solve problems involving scale drawings, percentage, and unit conversions.
- Simplify expressions using the orders of operations (including positive exponents, grouping symbols, and square roots).
  - Apply the orders of operations to evaluate algebraic expressions.

**In MEASUREMENT, your child will:**

- Identify the nets used to create a three-dimensional object.
- Explore and describe strategies for finding the surface area and volume of rectangular prisms, cylinders, and square-based pyramids.
- Examine congruence of corresponding angles and proportionality of corresponding sides to determine similarity.

**In GEOMETRY, your child will:**

- Identify, sketch, describe, and provide the coordinates for polygons that have been rotated or translated in the coordinate plane.
- Use properties of quadrilaterals to compare and contrast.

**In PROBABILITY AND STATISTICS, your child will:**

- Relate the differences between theoretical probabilities to experimental probability found through simulation.
- Determine the probability of compound events using the Fundamental (Basic) Counting Principle.
- Explain the consequences of making different choices using knowledge of probability.
- Make inferences, conjectures, and predications based upon the analysis of data.
- Construct and analyze histograms.
  - Compare and contrast histogram with other types of graphs presenting the same information.

**In PATTERNS, FUNCTIONS, & ALGEBRA, your child will:**

- Represent a variety of patterns, using tables, graphs, and symbolic expressions in order to describe functional

relationships.

- Translate between verbal and algebraic expressions.
  - Represent relationships from tables and graphs as verbal and algebraic expressions
- Represent and solve one and two-step inequalities using number lines, diagrams, verbal descriptions and algebraic sentences
- Represent and solve multi-step equations using hands-on materials, diagrams, and algebraic sentences.
- Apply properties of real numbers (commutative property, associative property, distributive property, additive and multiplicative inverse property).

## SCIENCE

### **In LIFE SCIENCE.1, your child will:**

- Demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations.
- Design and conduct experiments to test hypotheses to include appropriate uses of variables, constants, controls, and repeated trials.
- Organize data into tables showing repeated trials.
- Utilize triple beam and electronic balances, thermometers, metric rulers, graduated cylinders, and probe-ware to gather data.
- Construct models and simulations to illustrate and explain science phenomena.
- Interpret and analyze data collected during experimentation.
- Communicate investigative findings by creating graphs/charts to represent data.
- Identify, evaluate and interpret patterns identified in data.
- Use current applications to reinforce life science concepts.

### **In LIFE SCIENCE.2, your child will:**

- Investigate cell structure and organelles.
- Differentiate between plant and animal cells.
- Research the development of the cell theory.
- Sequence the steps in the cell cycle, including the phases of mitosis.
- Differentiate between mitotic and meiotic cell division.

**In LIFE SCIENCE.3, your child will:**

- Differentiate between cells, tissue, organs, and organ systems.
- Investigate the patterns of cellular organization and their relationship to life processes in living things.
- Differentiate between unicellular and multicellular organisms.
- Explain the role that each life function serves for an organism.
- Model how materials move into and out of cells in the processes of osmosis, diffusion, and selective permeability.

**In LIFE SCIENCE.4, your child will:**

- Investigate how organisms are classified.
- Explore the distinguishing characteristics of domains and kingdoms of organisms.
- Explore distinguishing characteristics of major animal and plant phyla.
- Explore the characteristics of various species.

**In LIFE SCIENCE.5, your child will:**

- Investigate basic physical and chemical processes of photosynthesis and its importance to plant and animal life.
- Investigate energy transfer between sunlight and chlorophyll.
- Investigate the transformation of water and carbon dioxide into sugar and oxygen.

**In LIFE SCIENCE.6, your child will:**

- Gain an understanding that organisms within an ecosystem are dependent on one another and on nonliving components of the environment.
- Investigate the carbon, water, and nitrogen cycles.
- Investigate the interactions resulting in a flow of energy and matter throughout the system.
- Investigate complex relationships within terrestrial, freshwater, and marine ecosystems.
- Investigate energy flow in food webs and energy pyramids.

**In LIFE SCIENCE.7, your child will:**

- Investigate the interactions that exist among members of a population.
- Distinguish between the role of competition, cooperation, social hierarchy, and territorial imperative among members of a population.
- Investigate the influence of behavior on a population.

**In LIFE SCIENCE.8, your child will:**

- Investigate interactions among populations in a biological community.
- Investigate the interactions between producers, consumers, and decomposers in a food web.
- Investigate the interactions between predator and prey
- Differentiate between competition and cooperation
- Differentiate between symbiotic relationships: mutualism, commensalism and parasitism.
- Investigate how niche determines the organism's role in its environment.

**In LIFE SCIENCE.9, your child will:**

- Gain an understanding of how organisms adapt to biotic and abiotic factors in an ecosystem.
- Differentiate between ecosystems and biomes.
- Investigate characteristics of land, marine, and freshwater ecosystems.
- Analyze and describe specific adaptations that enable organisms to survive within a specific ecosystem.

**In LIFE SCIENCE.10, your child will:**

- Investigate how organisms respond to daily, seasonal, and long term changes in their environment through phototropism, hibernation, and dormancy.
- Investigate factors that increase or decrease population size.
- Investigate eutrophication, climate changes, and catastrophic disturbances and their impact on ecosystems, communities, populations and organisms.

**In LIFE SCIENCE.11, your child will:**

- Investigate the relationships between ecosystem dynamics and human activity.
- Key concepts will include –
  - Food production and harvest;
  - Change in habitat size, quality, or structure;
  - Change in species competition;
  - Population disturbances and factors that threaten or enhance species survival; and
  - Environmental issues.

**In LIFE SCIENCE.12, your child will:**

- Investigate the structure and role of DNA and the function of genes and chromosomes in the transmission of genetic information to new generations.

- Differentiate between genotypes and phenotypes.
- Investigate characteristics that can and cannot be inherited.
- Research genetic engineering and its applications.
- Create a timeline of the historical contributions and significance of discoveries related to genetics.

**In LIFE SCIENCE.13, your child will:**

- Investigate the relationships of mutation, adaptation, natural selection, and extinction as related to changes that occur in populations of organisms over time.
- Investigate evidence of evolution of different species in the fossil record.
- Describe how environmental influences, as well as genetic variation, can lead to diversity of organisms.

## HISTORY/ SOCIAL SCIENCE

**In HISTORICAL CONNECTIONS, your child will:**

- Analyze major events in U.S. history; Reconstruction after the Civil War, the Industrial Revolution, Progressive Movement, Spanish-American War, World War I, the 1920's, the Great Depression, World War II, the Cold War, and the Social/Political/Economic transformation of the United States and the World after WWII.
- Interpret patriotic slogans and excerpts from notable speeches in U.S. history since 1877.
- Identify key individuals who have made an impact on the history of the United States.
- Differentiate between historical fact and historical interpretation.
- Demonstrate knowledge of the key domestic issues during the second half of the twentieth century.

**In ECONOMIC UNDERSTANDING, your child will:**

- Examine changes in technology from 1865 to the present and discuss future expectations.
- Describe the impact of inventions on the economy of the United States.
- Understand that immigration and industrialization transformed American life.
- Identify the costs and benefits of specific choices made, including the consequences, both intended and unintended, of

the decisions and how people and nations responded to positive and negative incentives.

**In GOVERNMENT AND THE CITIZEN, your child will:**

- Understand that patriotic slogans and important speeches give us powerful insights into the thoughts and feelings of people during the great events that shaped our history.
- Recognize that by exercising basic freedoms and rights citizens can influence the government.
- Understand how the government (national, state, and local) has had an impact on significant changes in United States history.
- Analyze how rights and responsibilities of American citizenship have been applied from 1877 to the present.

**In PEOPLE, PLACES, AND THE ENVIRONMENT, your child will:**

- Describe the growth of cities and the challenges of urban life.
- Interpret and use physical, political, and special purpose maps.
- Recognize how different points-of-view have been influenced by nationalism, race, religion, and ethnicity.
- Recognize cultural changes as they relate to history and geography.
- Explain relationships among natural resources, transportation, and industrial development after 1865.

**In HISTORY/SOCIAL SCIENCE SKILLS, your child will:**

- Analyze and interpret primary sources and contemporary media to make generalizations about life in the United States before 1877.
- Evaluate information for accuracy and separate fact from opinion.
- Develop skills of persuasive writing, discussion and debate.
- Sequence events and periods in United States and Virginia History.

Helpful Hints for Home

***English***

- Set aside a time and place for your child to read for at least 20-30 minutes a day.
- Make sure your child has a large supply of fiction and non-fiction materials he or she can read.
- Discuss materials your child is reading.
- Make time to read together as a family.
- Enhance your child's vocabulary with a family "word of the day."

- Encourage your child to keep a journal.
- Enjoy and discuss your child's writing.

### ***Math***

- Invite your child to figure out solutions to everyday situations. You can do this by talking about the problem, asking your child for ways to solve it, and then asking how they came up with the solution.
- Help your child be a risk taker; see the value of examining a wrong answer and realize that the right answers will come with proper understanding.
- Ask your child questions and give him time to think about the answer.
- Ask your child to figure out why something is the way it is and then check out his ideas. Let him think for himself rather than try to figure out what answer you want to hear.

### ***Science***

- Interpret diagrams, charts, and graphs found in various print media: newspapers, magazines, etc.
- Explain why plant cells contain certain cell structures that are lacking in animal cells.
- Sequence drawings of mitosis and meiosis and explain the importance of each type of cell division.
- Discuss the kingdoms of organisms and cite examples of organisms that are found in each kingdom.
- Explain the process of photosynthesis and its importance in a food web.
- Give real life examples of symbiotic relationships.
- Develop a journal in which land, marine, and freshwater ecosystems are distinguished.
- Research current events regarding catastrophic disturbances (tornado destruction, oil spills, and etc.).
- Keep a journal of environmental issues that concern the Hampton Roads area that occur in the newspaper.
- Discuss recent discoveries that are related to genetics and genetic engineering.

### ***History/Social Science***

- Encourage your child to keep up with current events by reading the newspaper and watching newscasts with you and discussing these events.
- Ask your child to plan a trip to a place in Virginia that has a historical, governmental or cultural background.

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