ENGLISH LANGUAGE ARTS

Reading :

Key Ideas, and Details:

- Cite several pieces of evidence to support analysis.
- Analyze how different elements of a text develop and influence the ideas of a text

Craft and Structure:

- Determine the meaning of words and phrases including figurative and connotative meaning
- Analyze how authors develop and contrast the points of view of different characters

Integration:

- Interpret a literary work by analyzing how the author uses literary elements
- Analyze how 2 or more authors write about the same topic

Language:

- Demonstrate command of the conventions of standard English grammar and punctuation
- Demonstrate understanding of figurative language, word relationships and nuances in word meanings

Writing:

- Write opinion, explanatory and narrative pieces using grade level skills
- Produce clear, coherent writing
- Gather relevant information from multiple print and digital sources

Speaking and Listening:

- Engage effectively in a range of collaborative discussions
- Adapt speech to a variety of contexts and tasks, demonstrating command of formal English
- Include multimedia components in oral presentations
- Adapt speech to a variety of contexts and tasks, demonstrating command of formal English

MATHEMATICS

- Solve real-life mathematical problems using numerical and algebraic expressions and equations
- Analyze proportional relationships and use them to solve real-world problems
- Apply and extend previous understandings of operations with fractions to add, subtract, multiply and divide rational numbers
- Use properties of operations to generate equivalent expressions

Mathematical Practices:

- Make sense of problems and persevere in solving them
- Reason abstractly and quantitatively
- Construct viable arguments and critique the reasoning of others
- Model with mathematics
- Use appropriate tools strategically
- Attend to precision
- Look for and make use of structure
- Look for and express regularity in repeated Reasoning

SCIENCE AND TECHNOLOGY

Earth and Space Science:

- Construct an evidence-based claim for how Earth's surface has changed over scales from local to global in size
- Create a model to explain how energy of the sun and Earth's gravity drive water cycle as it moves through multiple pathways in Earth's hydrosphere
- Research and explain how data from past geologic events are analyzed for patterns and used to forecast location and likelihood of future events
- Construct an evidence-based claim that human activities and technologies can mitigate the impact of human population increases and natural resource consumption

Life Science:

- Explain how characteristic animal behaviors and specialized plant structures increase the probability of successful reproduction of animals and plants
- Analyze and interpret data to provide evidence for the effects of abundant and scarce resources on the growth of organisms
- Explain how the relationships of many different kinds of plants and animals in an ecosystem may be competitive, predatory, parasitic or mutually beneficial
- Model the transference and conservation of energy among living and nonliving parts of an ecosystem
- Analyze data and provide evidence that disruptions to ecosystems can affect all populations within that ecosystem
- Evaluate benefits and limitations of competing design solutions for protecting an ecosystem
- Explain how changes to the biodiversity of an ecosystem may limit availability of resources

Physical Science:

- Analyze data and describe effect of distance and magnitude of electric charge on the strength of electric forces
- Use evidence to argue fields exist between objects with mass, between magnetic objects and between electrically charged objects even when not connected
- Construct and interpret data and graphs to describe relationships among kinetic energy, mass and speed of an object
- Model the relationship between positions of objects interacting at a distance and their potential energy
- Apply principles of energy and heat transfer to design, construct and test a device to minimize/ maximize thermal energy transfer
- Investigate to determine relationships among

energy transferred, retention/radiation of heat, mass and change in kinetic energy of particles as measured by temperature

- Provide evidence that changes in kinetic energy of an object creates a transfer of energy to or from the object
- Model thermal energy transfer from hot to cold by convection, conduction and radiation
- Describe relationship between kinetic and potential energy using informational text

Science and Technology:

- Evaluate competing solutions for a design problem using a decision matrix
- Collect and analyze data from testing and modification to optimize the product
- Construct a prototype of a solution to a given design problem
- Explain the function of a communication system and the role of its components
- Compare the benefits and drawbacks of different communication systems
- Research and communicate how transportation systems are designed to move people and goods using a variety of vehicles and devices
- Show how components of a system work together to serve as a structural function and maintain their design for a particular human use
- Analyze how components of a transportation, structural or communication system work together or affect each other

SOCIAL STUDIES

History and Geography:

- Compare information shown on modern and historical maps of the same region
- Correctly use the words of abbreviations for identifying time periods or dates in historical narratives
- Construct and interpret timelines of events and civilizations studied
- Distinguish between primary and secondary sources and describe how each kind of source is used in interpreting history
- Identify multiple causes and effects when explaining historical events
- Describe ways of interpreting archaeological evidence from societies leaving no written records

Civics and Government:

- Define and correctly use words and terms relating to government

Economics:

- Define and apply economic concepts learned in prekindergarten through grade 6 such as:
  - Examples of natural resources in the United States
  - Taxes: how and why and the purposes for Taxes
  - Reasons that the language, political institutions, and political principles were largely shaped by the English Colonies
  - Supply and demand effect
  - Examples of the choices people have to make about the goods and services they buy (e.g., a new coat, a tie, or a pair of shoes) and why they have to make choices (e.g., because they have a limited amount of money)

The purpose of this guide is to identify the major topics, concepts, and skills that are considered essential for this grade level as identified by the Massachusetts Curriculum Frameworks.

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CURRICULUM GUIDE GRADE 7

GARDNER PUBLIC SCHOOLS

"Intelligence without ambition is a bird without wings." C. A. Danielson

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