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

Central, South, East Asia, Southeast Asia, Oceania and Europe:

- Locate each region and use knowledge about political geography to locate current countries and cities
- Explain influences of settlement patterns within the regions
- Explain ways Indian and central Asian societies interacted with African and European societies
- Describe important economic, political, and religious development in central Asian history
- Describe the topography and climate of eastern Asia
- Describe important advances in Chinese history
- Describe social patterns of indigenous peoples in Australia
- Identify time zones and how longitude was determined

Ancient and Classical Greece:

- Locate Greece and its extent of influence
- Explain how geographical of ancient Athens contributed to maritime trade
- Explain political concepts in ancient Greece
- Compare and contrast life in Athens and Sparta
- Analyze causes and consequences of Persian Wars
- Give examples of Greek gods and goddesses
- Identify major accomplishments of ancient Greeks

Ancient and Classical Rome:

- Locate Rome and trace the expansion of the Roman Empire and explain the geological advantages of Rome
- Describe the rise of the Rome Republic
- Describe influence of Julius Caesar and Augustus in Rome's transition to an empire
- Explain characteristics of the system of classes in Rome
- Explain inner and outer conflicts that led to the fall of Rome
- Explain Roman contribution to architecture, engineering, and technology
- Explain the spread and influence of the Roman alphabet and Latin language
- Describe how ideas diffused throughout Europe, Asia, and Africa due to trade, migration, conquest and colonization.

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

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