

## DEAR PARENTS AND CAREGIVERS:

We recognize that you are your child's first and most important teacher and that it is our responsibility to build on your efforts by providing the rich set of learning experiences outlined in this curriculum digest.

Our curriculum follows the hundreds of pages of the Massachusetts Department of Education Curriculum Frameworks. This curriculum digest, therefore, is only a summary, but we believe the summary paints a vivid picture of the abilities and skills your child will develop this year. If you would like additional details about our curriculum expectations, please ask your child's teacher or download copies of the Massachusetts Frameworks from the Department of Education website at: <http://www.doe.mass.edu>.

As we deliver this curriculum we strive to provide all students with the skills and knowledge that they need to be successful in a complex world. We do this by providing an educational environment that is supportive of individual differences and where all people are valued and respected. Finally, we recognize how critical the parents and community members are to achieving this mission.

We look forward to communicating with you while we help your child to have a productive and rewarding year.



Daniel Mayer, Ed.D.

Assistant Superintendent of Curriculum,  
Assessment, and Instruction

## ENGLISH LANGUAGE ARTS

The focus in English Language Arts is on improving writing skills and continuing a study of literature using *Prentice Hall Timeless Voices* and *Timeless Themes Anthology* as well as other classical and contemporary novels.

### Language *Students will:*

- Acquire new vocabulary through reading and weekly spelling units.
- Analyze English grammar and usage.
- Describe, analyze, and use appropriately formal and informal English.
- Share ideas by participating in class discussions.

### Reading and Literature *Students will:*

- Identify the basic facts and main ideas in what they read and use them as a basis for interpretation.
- Identify, analyze, and apply knowledge of the characteristics of different genres.
- Identify, analyze, and apply knowledge of theme in a literary work and provide evidence for support.
- Identify, analyze, and apply knowledge of the structure and elements of fiction, nonfiction, and informational materials.
- Identify, analyze, and apply knowledge of theme, structure, and elements of poetry and drama and provide evidence for support.

### Composition *Students will:*

- Demonstrate writing with a clear focus, coherent organization, and sufficient detail.
- Demonstrate knowledge of English conventions in writing, revising, and editing.
- Develop and use appropriate criteria (rubrics) for assessing final versions of compositions or other writing projects.

### Media *Students will:*

- Compare similarities and differences of stories or novels to their filmed adaptations in the portrayal of plot, characters, and settings.

### Major Projects / Events

- Edgar Allan Poe Author Unit
- Jack London Author Unit
- Talents Unlimited Thinking Skills
- MCAS Preparation – Long Composition, Open Response, and Multiple Choice

## MATHEMATICS

### Number Sense and Operations *Students will:*

- Compare, order, translate, estimate, and compute integers, fractions, and mixed numbers.
- Define, compare, order, and apply frequently used irrational numbers, such as  $\sqrt{2}$  and  $\pi$ .
- Use ratios and proportions in the solution of problems, in particular, problems involving unit rates, scale factors, and rate of change.
- Represent numbers in scientific notation and use them in calculations and problem situations.
- Apply number theory concepts, including prime factorization and relatively prime numbers, to the solution of problems.
- Demonstrate an understanding of absolute value.
- Apply the rules of powers and roots to the solution of problems.
- Demonstrate an understanding of the properties of arithmetic operations on rational numbers.
- Determine when an estimate rather than an exact answer is appropriate and apply in problem solving situations.

### Patterns, Relations, and Algebra *Students will:*

- Extend, represent, analyze, and generalize a variety of patterns with tables, graphs, words, and when possible, symbolic expressions. Include arithmetic and geometric progressions.
- Evaluate simple algebraic expressions for given variable values.
- Create and use symbolic expressions and relate them to verbal, tabular, and graphical representations.

### Geometry *students will:*

- Analyze, apply, and explain the relationship between the number of sides and the sums of the interior and exterior angle measures of polygons.
- Classify figures in terms of congruence and similarity.
- Demonstrate an understanding of the relationships of angles formed by intersecting lines, including parallel lines cut by a transversal.
- Demonstrate an understanding and apply the Pythagorean Theorem.
- Use a straightedge, compass, or other tool to formulate and test conjectures and to draw geometric figures.
- Predict the results of transformations on unmarked or coordinate planes and draw the transformed figure.
- Identify three-dimensional figures by their physical appearance, distinguishing attributes, and spatial relationships; recognize and draw two-dimensional representations of three-dimensional objects.

### Measurement *Students will:*

- Select, convert, and given the formulas, convert from one system of measurement to another and use appropriate units of measurement or scale.
- Demonstrate an understanding of the concepts and apply formulas and procedures for determining measures, including those of area and perimeter / circumference of parallelograms, trapezoids, and circles. Given the formulas, determine the surface area and volume of rectangular prisms, cylinders, and spheres. Use technology as appropriate.
- Use ratio and proportion (including scale factors) in the solution of problems, including problems involving similar plane figures and indirect measurement.
- Use models, graphs, and formulas to solve simple problems involving rates, e.g., velocity and density.

### Data Analysis, Statistics, and Probability *Students will:*

- Describe the characteristics and limitations of a data sample and identify different ways of selecting a sample.
- Select, create, interpret, and utilize various tabular and graphical representations of data. Differentiate between continuous and discrete data and ways to represent them.
- Find, describe, and interpret appropriate measures of central tendency and spread that represent a set of data. Use these notions to compare different sets of data.
- Use tree diagrams, tables, organized lists, fundamental counting principle, and area models to compute probabilities for simple compound events.

## SCIENCE

### Life Science

#### Inquiry *Students will:*

- Formulate a testable hypothesis.
- Design and conduct an experiment specifying variables to be changed, controlled, and measured.
- Select appropriate tools and technology and make quantitative observations.
- Present and explain data and findings using multiple representations including tables, graphs, mathematical and physical models, and demonstrations.
- Draw conclusions based on data or evidence presented in tables or graphs and make inferences based on patterns of trends in the data.
- Communicate procedures and results using appropriate science and technology terminology.
- Offer explanations of procedures and critique and revise them.

#### Structure and Function of Cells *Students will:*

- Recognize that all organisms are composed of cells and that many organisms are single-celled.
- Compare and contrast plant and animal cells including major organelles.
- Recognize that within cells many of the basic functions of organisms are carried out.
- Describe the hierarchical organization of multicellular organisms from cells to tissues, to organs, to systems, and to organisms.

#### Evolution and Biodiversity *Students will:*

- Recognize that evidence drawn from geology, fossils, and comparative anatomy provide the basis of the theory of evolution.
- Give examples of ways in which genetic variation and environmental factors are causes of evolution and the diversity of organisms.
- Relate the extinction of species to a mismatch of adaptation and the environment.
- Recognize that biological evolution accounts for the diversity of species and developed through gradual processes over many generations.

#### Reproduction and Heredity *Students will:*

- Recognize that every organism requires a set of instructions that specifies its traits.
- Recognize that heredity information is contained in genes located in the chromosomes of each cell.
- Compare sexual reproduction with asexual reproductions.

#### Classification of Organisms *Students will:*

- Classify organisms into 6 recognized kingdoms according to characteristics that they share.

#### Systems in Living Things *Students will:*

- Identify the general functions of the major systems of the human body (digestion, respiration, reproduction, circulation, excretion, protection from disease, and movement, control, and coordination) and describe ways that these systems interact with each other.

#### Energy and Living Things *Students will:*

- Explain the roles and relationships among producers, consumers, and decomposers in the process of energy transfer in a food web.
- Recognize that producers use the energy from sunlight to make sugars from carbon dioxide and water through a process called photosynthesis.
- Explain how dead plants and animals are broken down by other living organisms and how this process contributes to the system as a whole.

#### Changes in Ecosystems Over Time *Students will:*

- Give examples of ways in which organisms interact and have different functions within an ecosystem that enable the ecosystem to survive.
- Identify ways in which ecosystem have changed throughout geologic time in response to physical conditions, interactions among organisms, and the actions of humans.

#### Major Projects / Events

- Participation in the annual weeklong, residential Nature's Classroom program in the fall
- The Annual Science / Tech Ed fair in spring

## HISTORY/SOCIAL STUDIES

**Theme: Ancient and Classical Civilizations – Ideas that Shaped History**

### Topics

- General Geographic Review
- Early Human Development
- Development of the Mesopotamian Civilization
- Introduction into the Early Civilizations of Egypt, Phoenicia, and Minoa
- Roots of Western Civilization: Ancient Israel, Greece, and Rome
- The Fall of Rome

**History and Geography** *Students will:*

- Compare information shown on modern and historical maps of a given region.
- Identify and explain multiple causes and effects of a given historical event.
- Distinguish between primary and secondary sources and how each is used in interpreting history.

**Civics and Government** *Students will:*

- Define and correctly use words and terms relating to government.

**Economics** *Students will:*

- Review and apply economic concepts, for example: producers, consumers, goods and services, buyers and sellers, natural resources, taxes, specialization, savings, trade, barter, medium of exchange, and supply and demand.

## WELLNESS

**Physical Education** *Students will:*

- Use combinations of manipulative, locomotor, and non-locomotor skills to develop movement sequences and patterns, both individually and with others.
- Apply basic principles of training and appropriate guidelines of exercise to improve immediate and long-term physical fitness.
- Demonstrate responsible social behavior in physical activity settings.

**Health** *Students will:*

- Learn basic life skills to improve the physical, mental, and social health of student's life and that of their families.
- Demonstrate an ability to select, store, prepare, and serve nutritious foods from the five basic food pyramid food groups.
- Learn the basic characteristics of physical growth and development.

## WELLNESS *cont.*

- Acquire the knowledge and skills necessary to make effective personal decisions that promote their physical, emotional, sexual, and reproductive health.
- Acquire the knowledge about emotions and physical health, the management of emotions, personality and character development, and social awareness.
- Acquire the knowledge and skills to be competent in making health-enhancing decisions regarding the use of medications and avoidance of substances.

## COMPUTER APPLICATIONS

*Students will:*

- Demonstrate proficiency in the use of computers and applications as well as an understanding of concepts underlying hardware, software, and connectivity.
- Demonstrate responsible use of technology and an understanding of ethics and safety issues in using electronic media.
- Demonstrate ability to use technology for research, problem-solving, and communication.
- Locate, evaluate, collect, and process information from a variety of electronic sources. Students use telecommunications and other media to interact or collaborate with peers, experts, and other audiences.
- Produce projects such as, web quests, websites, excel spreadsheets, and Internet research papers.
- Begin to develop public speaking skills through the use of SmartBoard technology and oral presentations.
- Learn how to use a variety of software packages including Word, PowerPoint, Publisher, Excel, Edline.
- Use Think.com to understand the power of the Internet within the confines of a protected online environment where primary and secondary students and teachers from around the globe can easily communicate, collaborate on projects, share ideas, and enliven classroom learning experiences through real world discussions.

## INFORMATION TECHNOLOGY

**In all academic courses** *students will:*

- Communicate using a variety of media and formats.
- Locate, evaluate, analyze, and use information.
- Compile, organize, analyze, and synthesize information.
- Draw conclusions and make generalizations based on information gathered.
- Collaborate and cooperate in team efforts.
- Communicate locally and globally.
- Select appropriate tools to solve problems.
- Use technology in ethical and appropriate ways.

## LIBRARY MEDIA

*Students will:*

- Acquire information problem-solving skills.
- Appreciate literature, fiction and non-fiction, and its ability to reflect on one's own life and one's place in the world.
- Acquire increasingly sophisticated information accessing, evaluating, and synthesizing skills from library resources- including electronic resources and the Internet.

## ART

*Students will:*

- Demonstrate knowledge of the methods, materials, and techniques unique to the visual arts.
- Create artwork in a variety of two-dimensional (2D) and three-dimensional (3D) media.
- Expand the repertoire of 2D and 3D art processes, techniques, and materials.
- Create artwork that demonstrates an awareness of the range and purpose of tools.
- Demonstrate appropriate use of vocabulary.
- Maintain the workspace, materials, and tools responsibly and safely.

# MAYNARD PUBLIC SCHOOLS

---



## A Curriculum Overview Your Child's year in **SEVENTH GRADE**



---

**Dr. Mark R. Masterson, Superintendent**  
**Dr. Daniel Mayer, Assistant Superintendent**  
**Robert Brooks, Principal, Fowler Middle School**