

## Science Course Purpose

Your child will engage in scientific inquiry using scientific literacy. Students will apply a range of thinking processes, such as recalling facts, applying knowledge, analyzing, experimenting evaluating and creating.

### Grade Level Expectations

#### **FORCE AND MOTION**

Students will know that an object's inertia causes it to continue moving the way it is moving unless it is acted upon by a force to change its motion. Students will observe that the motion of an object can be described by its position, direction of motion and speed.

Students will explain how unbalanced force acting on an object changes its speed and/or direction of motion.

#### **HEREDITY AND EVOLUTION**

Students will know that reproduction is a characteristic of living systems and it is essential for the continuation of every species.

Students will explain that heredity is the passage of genetic information from one generation to another, and that some of the characteristics of an organism are inherited and some result from interactions with the environment (Genes, DNA).

#### **ENERGY IN THE EARTH'S SYSTEM**

Students will explain that variations in the amount of the sun's energy hitting the Earth's surface affect daily and seasonal weather patterns.

#### **SCIENCE AND TECHNOLOGY IN SOCIETY**

Students will analyze and explain how in the design of structures there is a need to consider factors such as function, materials, safety, cost and appearance (Bridges).

## Social Studies Course Purpose

Your child will discuss information from history and social studies to improve their understanding of our nation and our world using literacy, inquiry and research skills to analyze, evaluate and present history and social studies information.

Your child will be prepared to compete in the globalized 21st century.

### Grade Level Expectation

#### **CONTENT KNOWLEDGE**

##### **Revolution, Civil War, Slavery and Social Reform**

Students will demonstrate an understanding of significant events and themes in the United States History. Students will compare and contrast similarities and differences of wars, social reform movements, political and industrial revolutions, and influence of ideas and beliefs on American History.

#### **HISTORY AND SOCIAL STUDIES LITERACY**

##### **Historical Research and Evaluation**

Students will demonstrate understanding using inquiry and research skills to analyze, evaluate and present history and social studies information. Students will infer from varied resources as they gather information to compose personal opinion essays.

#### **HISTORICAL APPLICATION**

##### **Historical Perspective**

Students will compare and contrast two or more interpretations (point of view) of a historical event using evidence from class, research and debates.

## Unified Arts Course Purpose

#### **Music and Visual Arts**

Your child will gain an understanding and appreciation of the arts, as well as the ability to participate in creating and performing the arts, as they are essential attributes of an educated person. Your child will understand and use the materials, techniques, forms, language, notation, literature/ repertoire, and diverse cultural and historical contexts of each art form. Students will participate in art criticism with teachers and peers.

#### **Physical Education**

Your child will take responsibility for protecting their health. Students will learn about nutrition and physical activity, and apply this knowledge by making healthy choices for themselves. Your child will have opportunities to:

- Set personal goals for healthy eating and physical activity, and make healthy choices;
- Actively engage in physical education and enjoy physical activity;
- Advocate for nutrition education and physical activity options at school;
- Take an active role in advocating for healthy food choices at school, not only in the cafeteria, but in vending machines, school stores and fundraising activities; and
- Serve as role models for younger children.

#### **Educational Technology**

Your child will incorporate technology across all curriculum areas in order to respond to complex problems and broaden content mastery. Students will use technology in order to communicate information and ideas, conduct research, organize data, solve problems and create original work.

## Grade Eight



## Curriculum

### East Windsor Public Schools

#### ***Mission:***

The East Windsor Middle School is a community of educators, parents, and townspeople that recognize that each child is a unique individual possessing different abilities, interests and needs. It is our mission that each child will reach his or her full potential by setting high expectations for achievement and citizenship, and providing the necessary resources and supports to ensure student success. Our goal is to be an exemplary middle school that promotes a sense of optimism in each student's future.

#### ***Student Profile:***

Eighth graders are concrete and abstract thinkers. They prefer active learning while they interact with peers. They worry about grades, appearance, and popularity. Eighth graders can be withdrawn and introspective as they probe into their own thinking. They thrive on debates and discussions. They are able to memorize and think logically about varied concepts. Students at this age begin to plan realistically for the future. They will face decisions that require sophisticated cognitive and social-emotional skills.

# Grade Eight Course Purposes and Expectations

## Language Arts Course Purpose

Your child will engage in the workshop instructional model to read, think, analyze, question and converse about books on a daily basis, so that every student will be highly skilled in reading, writing, listening, speaking, viewing and presenting across all content areas.

## Grade Level Expectations

### WRITING

Students will express, develop and substantiate ideas and experiences through their own writing and artistic and technical presentations. Students will write descriptive, narrative fiction, content specific expository, persuasive, and poetic pieces through the writing process incorporating capitalization, punctuation, and usage rules from previous grades.

#### Writing Process

Students will communicate with others by applying English Language Conventions through the writing process of *Plan, Draft, Revise, Edit, Publish, and Reflect*

Students will write using story structure of beginning, middle and end. They will read their writing, confer with peers or teacher to add, delete or rearrange words and sentences and check for fluency.

### READING

Students comprehend and respond in literal, critical and evaluative ways to various texts that are read, viewed and heard.

#### Reading Comprehension

Students will independently accomplish all before, during and after comprehension grade-level expectations. Students will evaluate text for story meaning, and connections to the author's life.

- Students will read, view, listen to and write about a variety of fiction and nonfiction contemporary, classical, multicultural and culturally relevant texts in all content areas.
- Students will use appropriate strategies before, during and after reading in order to construct meaning.
- Students will use information from the text to make predictions based on what is read.
- Students interpret, analyze and evaluate text in order to extend understanding and appreciation.
- Students will use context clues to determine meanings of unknown or multiple-meaning words or figurative language.

#### Reading and Responding

- Students will provide evidence from the text to support all oral, written and presented responses about the text, as they demonstrate a general understanding, develop an interpretation, make reader text connections, and analyze content and structure.

#### Reading Reflection / Behaviors

- Students will choose a variety of genres to read, hear, view and write for personal enjoyment.
- Students will recommend books to others and explain the reason for the recommendation.
- Pose questions, listen to the ideas of others, and contribute own information and ideas in group discussions, panel discussions and interviews.
- Students will set reading goals, create a plan to meet those goals, and monitor their progress.

## Mathematics Course Purpose

Your child will use mathematical literacy to understand major mathematic concepts. They will apply these understandings to situations in daily life. Making connections between mathematics and other disciplines is a key to the appropriate application of mathematics skills and concepts to solve problems.

## Grade Level Expectations

### ALGEBRAIC REASONING:

#### Patterns and Functions

Students will represent and analyze patterns and functional relationships using a variety of strategies, tools and technologies.

- Students will understand and describe patterns and functional relationships (linear or nonlinear).
- Students will represent and analyze quantitative relationships in a variety of ways (rate of change, slopes, graphs).
- Students will use operations, properties and algebraic symbols to determine equivalence and solve problems (Algebraic expressions).

### NUMERICAL AND PROPORTIONAL REASONING

Students will express quantitative relationships numerically in multiple ways in order to make connections and simplify calculations using a variety of strategies, tools and technologies

- Students will understand that a variety of numerical representations can be used to describe quantitative relationships (Rational, irrational numbers,  $\square$ ).
- Students will use numbers and their properties to compute flexibly and fluently and to reasonably estimate measures and quantities (Positive and negative rational numbers,

exponents and powers of 10).

### GEOMETRY AND MEASUREMENT

Students will recognize that shapes and structures can be analyzed, visualized, measured and transformed using a variety of strategies, tools and technologies.

- Students will use properties and characteristics of two- and three- dimensional shapes and geometric theorems to describe relationships, communicate ideas and solve problems (Scale factors, surface area).
- Students will use spatial reasoning, location and geometric relationships to solve problems (Coordinate planes).
- Students will develop and apply units, systems, formulas and appropriate tools to estimate and measure (Solve surface area and volume problems in context and describe in writing).

### WORKING WITH DATA:

#### Probability and Statistics

- Students will analyze data to make informed decisions using a variety of strategies, tools and technologies.
- Students will collect, organize and display data using appropriate statistical and graphical methods (Box and Whisker, stem and leaf, and scatter plots, line graphs and histograms).
  - Students will analyze data sets using descriptive statistics (mean, median and mode) to form inferences and evaluate hypotheses to make predictions (Defend in writing the accuracy of statistical claims).
  - Students will understand and apply basic concepts of probability while designing probability experiments. Students will identify permutations or combinations using tree diagrams, lists or the Counting Principle to determine possible outcomes.