Washoe County School District
Family Guide to Learning
How you can help your child succeed in middle school

7th-8th Grade Curriculum Guide
Washoe County School District
7th–8th Grade Family Guide to Learning
*How you can help your child succeed in middle school*

This guide provides an overview of what your child will learn by the end of each grade level as determined by the Nevada Academic Content Standards (NVACS), our statewide academic standards. The NVACS describe what all students should know and be able to do from kindergarten through the 12th grade. The NVACS is a set of minimum expectations, not a curriculum, so decisions about how to help students meet learning goals remains in the hands of the District, schools, and teachers. The guide focuses on the key concepts in literacy, mathematics, science, and social studies as well as 21\textsuperscript{st} Century Skills, and Social & Emotional Learning.

If you have any questions or would like more information, please feel free to contact your child’s school or teacher.

For additional ideas for learning at home, or to learn more about the Nevada Academic Content Standards please visit us online at [http://www.washoeschools.net/Page/1002](http://www.washoeschools.net/Page/1002).
7TH GRADE ENGLISH LANGUAGE ARTS

Reading

**Literary Text**
- Determine a theme or central idea and identify details that support that theme.
- Evaluate the use of figurative language; analyze the impact of specific word choice on toward his or her subject).

**Informational Text**
- meaning and tone (the author’s attitude
- Determine an author’s point-of-view or purpose.
- Analyze how an author takes a position different from other authors.
- Evaluate how an author develops tone, transitions, and organizes ideas.
- Recognize and use features of digital text (e.g. hyperlinks, annotation tools).

Writing

**Literary Text**
- Use precise words and phrases, relevant descriptive details, and sensory language to capture action and convey experiences or events.
- Identify and incorporate narrative structural elements into writing, including plot sequence, transitions, and pacing.

**Writing to Inform or to Take a Stand**
- Organize and focus writing.
- Use evidence that is accurate and reliable to support statements and conclusion.
- Develop arguments to support claims with clear reasons and relevant evidence.
- Generate questions for investigation and conduct short research projects using multiple sources.

Speaking and Listening
- Participate in collaborative discussion.
- Pose questions that elicit elaboration and respond to others’ questions and comments with relevant observations and ideas.
- Acknowledge new information expressed by others and, when warranted, modify their own views.
- View information in various forms (visual, audio, digital, etc.) and analyze the main ideas and supporting details presented.
- Use digital tools to combine spoken text with other media and incorporate feedback to improve these works over multiple drafts.

Supporting your child’s learning at home

- Help your child reflect on and focus learning by asking the following questions:
  - What did you learn today? What texts did you read, discuss, and respond to in writing? What strategies did you use during your reading, discussing, and writing?
  - What did you learn today that will help you succeed on the upcoming test, paper, etc.? What do you still need to practice?
- Share articles or current events from national news organizations online or in newspapers or magazines, and ask your child about his/her opinions. Ask your child to find facts from the articles to support his/her opinions.
- Have your child find information on the Internet related to what they are learning in school.
- Encourage your child to create digital content, share it with friends and family through tools like family blog, and ask relatives to post comments.
- If you use social networking sites, consider creating collaborative posts with your child to help them understand appropriate online language and behaviors.
**7TH GRADE ENGLISH LANGUAGE ARTS (continued)**

**Language**

- Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing and use a comma to separate coordinate adjectives (e.g., a comma is used in this example: *It was a fascinating, enjoyable movie.* A comma would not be used in this example: *He wore an old[,] green shirt*).
- Decipher the meaning of unknown and multiple-meaning words and phrases by using context clues, applying Greek or Latin affixes (e.g., replace, replaceable, irreplaceable), or consulting reference materials such as dictionaries and glossaries.
7TH GRADE MATHEMATICS

Students in the 7th grade will be placed in Math 7 or Math7/8 depending on their desire and ability to take Algebra 1 in the 8th grade.

Equations and Expressions
- Use properties of operations to generate equivalent expressions.
- Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

Number System
- Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers (positive and negative numbers; fractions and decimals).

Statistics and Probability
- Use random sampling to draw conclusions about a population.
- Draw informal comparative inferences about two populations.
- Investigate chance processes and develop, use, and evaluate probability models.

Ratio and Proportional Relationships
- Analyze proportional relationships and use them to solve real-world and mathematical problems.

Geometry
- Draw, construct, and describe geometrical figures and describe the relationships between them.
- Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.

Supporting your child’s learning at home

- Have your child measure the lengths of the sides of a room in your house and then figure out the perimeter and area of the room. Your child also can measure a different room and compare the perimeters and areas of the two rooms.
- Look for opportunities in everyday life to use large numbers with your child. For example, compare the costs of different models of cars advertised in the newspaper or compare the population of Reno with a city of a relative or friend.
- Look for percents in sales at local stores. Have your child figure out how much you would save on a sale item. Have your child find the tip amount on the price of the meal.
- Add or subtract dollars and cents to use decimals in everyday life.
- Look for situations in everyday life that use both positive and negative numbers, fractions and decimals.
- Encourage your child to use digital tools and apps that support development of mathematical concepts and skills.
MATH 7/8
Students wishing to take Math 7/8 should have successfully completed Math 6 with additional placement recommendations provided around their assessment scores.

Expressions and Equations
- Use properties of operations to generate equivalent expressions.
- Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

Number System
- Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers (positive and negative numbers, fractions and decimals).
- Know that there are numbers that are not rational (i.e. square roots, π, etc.) and approximate them by using rational numbers.
- Work with radicals and integer exponents.

Statistics and Probability
- Use random sampling to draw conclusions about a population.
- Draw informal comparative inferences about two populations.
- Investigate chance processes and develop, use, and evaluate probability models.

Ratio and Proportional Relationships
- Analyze proportional relationships and use them to solve real-world and mathematical problems.
- Understand the connections between proportional relationships, lines, and linear equations.

Geometry
- Draw, construct, and describe geometrical figures and describe the relationships between them.
- Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.
- Understand congruence and similarity using physical models, transparencies, or geometry software.
- Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.

Supporting your child’s learning at home
- Have your child measure the lengths of the sides of a room in your house and then figure out the perimeter and area of the room. Your child also can measure a different room and compare the perimeters and areas of the two rooms.
- Look for opportunities in everyday life to use large numbers with your child. For example, compare the costs of different models of cars advertised in the newspaper or compare the population of Reno with a city of a relative or friend.
- Look for percents in sales at local stores. Have your child figure out how much you would save on a sale item. Have your child find the tip on the price of the meal.
- Add or subtract dollars and cents to use decimals in everyday life.
- Look for situations in everyday life that use both positive and negative numbers; fractions, and decimals.
- Talk with your child about the applications of mathematics in daily life.
- Encourage your child to use digital tools and apps that support development of mathematical concepts and skills.
7th Grade Social Studies

Essential History Skills

- Analyze primary (historical) and secondary (texts created after the fact in history) source documents.
- Write arguments and informational pieces using evidence from primary and secondary sources to examine history.
- Evaluate multiple perspectives in history.
- Engage in civil discourse about history using evidence from sources.
- Use the Internet to find information and create digital products as assessment of learning.

United States and Nevada History

- Identify the five themes of geography and apply physical geography to the development of cultures.
- Analyze how different colonial regions affected the economic and cultural development of the United States.
- Identify the major components of the Declaration of Independence, Constitution, and Bill of Rights as the foundation of U.S. government and political culture.
- Determine the causes and effects of the American Revolution
- Identify major components of the U.S. Constitution and describe how they are interpreted today.
- Discuss the importance of the Bill of Rights and how it protects civil rights and liberties.
- Describe the responsibilities of each of the three branches of government and how the system of checks and balances works.
- Describe the interactions between the United States government, Native American groups, and Mexico in the early expansion of the United States.
- Analyze the reasons for the Civil War as well as the long-term consequences of the Civil War on America.
- Use the Internet to find information and create digital products as assessment of learning.

Supporting your child’s learning at home

- Use maps while traveling and practice giving directions.
- Discuss the importance of culture and how it impacts history.
- Discuss current events and historical reasons for the emergence of these events.
- Examine the culture of your family.
- Study important geographic features around the world.
- Attend different cultural events in the community.
- Read primary source and secondary source documents related to historical events.
- Read the newspaper and discuss political cartoons.
- Explore museums (in person or online) related to Nevada and U.S. history.
- Explore Nevada historical and popular tourist sites either in person or online.
- Discuss the importance of voting and civic participation.
- Study the founding documents of American history.
- Discuss the sources of information you use to form an opinion or make a claim.
- Discuss the importance of making a claim, using evidence and reasoning to make the argument.
- Connect your family history to historical events discussed in class.
TH GRADE SCIENCE

Structure, Function and Information Processing

How do the structures of organisms contribute to life’s functions?
- All living things are made up of cells.
- Within cells, special structures are responsible for particular functions.
- In multicellular organisms, the body is a system of multiple interacting subsystems.
- Each sense receptor responds to different inputs.

Growth, Development, and Reproduction of Organisms

How do organisms grow, develop, and reproduce?
- Organisms reproduce and transfer their genetic information to their offspring.
- Genetic factors as well as local conditions affect the growth of the adult plant.
- Genes are located in the chromosomes of cells.
- Variations of inherited traits between parent and offspring arise from genetic differences that result from the subset of chromosomes inherited.

Matter and Energy in Organisms and Ecosystems

How do organisms obtain and use matter and energy? How do matter and energy move through an ecosystem?
- Plants, algae, and many microorganisms use the energy from light to make sugars from carbon dioxide from the atmosphere and water.
- Within individual organisms, food moves through a series of chemical reactions.
- Growth of organisms and populations increases are limited by access to resources.
- Food webs are models that demonstrate how matter and energy are transferred between producers, consumers, and decomposers as the three interact within an ecosystem.

Interdependent Relationships in Ecosystems

How do organisms interact with other organisms in the physical environment to obtain matter and energy?
- Predatory interactions may reduce the number of organisms or eliminate whole populations of organisms.
- Biodiversity describes the variety of species found in Earth’s terrestrial and oceanic ecosystems.
- Changes in biodiversity can influence human’s resources.*

Supporting your child’s learning at home

- Encourage your child to observe, ask questions, experiment, find information online, and seek their own understandings of natural and human-made phenomena around them.
- With your child, read an online or print article about a scientific discovery and summarize what it tells you.
- Discuss family genetics, what is the same and different between parents and siblings.
- Talk about recycling and how it can help our environment.
Natural Selection and Adaptations

*How does genetic variation among organisms in a species affect survival and reproduction?*
*How does the environment influence genetic traits in affect survival and reproduction?*

- The collection of fossils and their placement in chronological order is known as the fossil record.
- Adaptation by natural selection acting over generations is one important process by which species change over time in response to changes in environmental conditions.

*Engineering opportunities that allow children to apply what they have learned in science and mathematics. These activities are based on real-world problems to see how science and mathematics are relevant to children’s lives.*
8TH GRADE ENGLISH LANGUAGE ARTS

Reading

* Literary and informational texts:
  * Cite textual evidence to support an analysis of the text.
  * Determine the theme or central idea.
  * Analyze how particular lines propel the action, reveal characters, or provoke a decision.
  * Determine the meaning of words and phrases as they are used in a text.
  * Compare and contrast the structure of two or more texts.
  * Analyze the differences in the points of view of the characters, the audience, and the reader.
  * Recognize and use features of digital text (e.g. hyperlinks, annotation tools).

* Informational texts:
  * Delineate and evaluate the argument of specific claims in a text.
  * Analyze a case in which two or more texts provide conflicting information on the same topic.

Supporting your child’s learning at home

* Discuss events going on in the community, in our nation, or around the world. Encourage your child to research solutions to issues in school or the community in order to be informed about how to address common concerns.
* Visit the University of Nevada, Reno; Truckee Meadows Community College; or other local college or career college campuses. Begin talking about your student’s interests after high school and his or her choices early. What does your child expect from college? What high school courses will your child need to pass to prepare for college?
* Have your child find information on the Internet related to what they are learning in school.
* Encourage your child to create digital content, and share it with friends and family through tools like a personal blog.
* Monitor your child’s use of social networking sites and reinforce the proper netiquette. Remind them of their digital footprint and what it can mean for their future college or career options.

Writing

* Write arguments to support statements with clear reasons and relevant evidence.
* Write texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.
* Write texts to describe a real or imagined experience or event using effective writing technique, relevant descriptive details, and well-structured event sequences.
* Produce clear and coherent writing in which the development, organization, and style are appropriate to task, audience, and purpose.
* Use digital tools to produce and publish writing and presentations.
* Conduct short research projects to answer a question, drawing on several sources, including online sources.
* Gather relevant information from multiple print and digital sources.
* Draw evidence from literary or informational texts to support analysis, reflection, and research.
Speaking and Listening

- Engage effectively in a range of collaborative discussions with diverse partners, including through online communication tools.
- Use digital tools to combine spoken text with other media, and incorporate feedback to improve these works over multiple drafts. Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.
- Adapt speech to a variety of contexts and tasks, including online environments.

Language

- Demonstrate a command of the conventions of Standard English grammar and usage when writing or speaking. Eighth grade students should be able to form and use verbs in the active and passive voice as well as recognize and correct verbs using the incorrect voice.
- Demonstrate a command of the conventions of Standard English capitalization, punctuation, and spelling when writing. Specifically, eighth graders should use commas, dashes, or ellipses to indicate a pause, break, or omission.
8TH GRADE MATHEMATICS

Students in the 8th grade will be placed in Math 8 or Algebra 1 depending on their desire and the successful completion of Math 7/8 in the 7th grade.

Expressions and Equations
- Work with radicals and integer exponents.
- Understand the connection between proportional relationships, lines and linear equations.
- Analyze and solve linear equations and pairs of simultaneous linear equations.

Functions
- Define, evaluate, and compare functions.
- Use functions to model relationships between quantities.

The Number System
- Know that there are numbers that are not rational (i.e. square roots, π, etc..), and approximate them by rational numbers.

Statistics and Probability
- Find patterns between two characteristics of a set of objects (e.g., car weight and miles per gallon).

Geometry
- Understand congruence and similarity using physical models, transparencies, or geometry software.
- Understand and apply the Pythagorean Theorem (if you have a right triangle with legs $a$ and $b$ and hypotenuse $c$, then $a^2 + b^2 = c^2$).
- Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.

Supporting your child’s learning at home
- Talk with your child about applications of algebra and how they can relate to daily life.
- Discuss with your child how the Pythagorean Theorem $a^2 + b^2 = c^2$ is applied by people in some careers, such as carpenters, architects and pilots.
- Look with your child for uses of data in magazines, in newspapers, and on television. Talk about situations in which data might be collected to help represent information using mathematical models, such as tables and graphs.
- Point out examples of graphical displays and ask your child questions about the information shown.
- Encourage your child to use digital tools and apps that support development of mathematical concepts and skills.
This course utilizes the same text, curriculum and expectations as a high school Algebra 1 course. Students placed in Algebra 1 in the 8th grade should have successfully completed Math 7/8 with additional placement recommendations provided around their assessment scores. Students who earn a grade of "C" or lower will repeat Algebra 1 their freshman year.

### Number and Quantity
- Extend the properties of exponents to rational exponents.
- Use properties of rational and irrational numbers.
- Reason with numbers and variables to solve problems.

### Equations, Expressions and Inequalities
- Interpret the structure of expressions.
- Write expressions in equivalent forms to solve problems.
- Perform arithmetic operations on polynomials.
- Create equations that describe numbers or relationships.
- Understand solving equations as a process of reasoning and explain the reasoning.
- Solve equations and inequalities in one variable.
- Solve systems of equations.
- Represent and solve equations and inequalities graphically.

### Functions
- Understand the concept of a function and use function notation \( f(x) = y \).
- Interpret functions that arise in applications in terms of the context.
- Analyze functions using different representations.
- Build a function that models a relationship between two quantities.
- Build new functions from existing functions.
- Construct and compare linear, quadratic, and exponential models and solve problems.
- Interpret expressions for functions in terms of the situation they model.

### Statistics
- Summarize, represent, and interpret data on a single set of data.
- Summarize, represent, and interpret data on two categories of data or two numerical set of data.
- Interpret linear models.

### Supporting your child’s learning at home
- Identify ways in which algebra is used in everyday life.
- Describe fees involving memberships or contracts that include a flat fee plus additional costs for extra services.
- Find a newspaper article that provides the results of a statistical study and discuss and describe the results.
- Look up car pricing in the newspaper. Work with your teen to determine the actual cost of the car including the monthly payment, insurance, and gasoline.
- Ask students to explain their reasoning on the mathematics they use in class and on assigned work.
- Encourage your child to use digital tools and apps that support development of mathematical concepts and skills.
**8th Grade Social Studies**

**Essential History Skills**
- Analyze primary (historical) and secondary (texts created after the fact in history) source documents.
- Write arguments and informational pieces using evidence from primary and secondary sources to examine history.
- Evaluate multiple perspectives in history.
- Engage in civil discourse about history using evidence from sources.
- Use the Internet to find information and create digital products.

**United States and Nevada History**
- Identify the 13th, 14th, and 15th amendments to the Constitution and explain their impact on the expansion of human rights.
- Identify Black Codes and Jim Crow Laws and explain how they reflected attitudes about race historically.
- Analyze the interaction between pioneers and Native Americans during western settlement.
- Identify the effect of the Transcontinental Railroad on westward expansion and the economy of the United States.
- Explore causes, events, inventions, and technologies of the Industrial Revolution and explain their impact on the way of life in Nevada and the United States.
- Discuss and analyze the rise of the Populist and Progressive Movements and explain how they reflect social change.
- Identify and explain the rise of American imperialism.
- Analyze the effects of World War I on social and cultural life in Nevada and the United States.
- Explain the major social, technological, and cultural developments of the 1920’s.
- Explain the concept of supply and demand and its role in capitalism.
- Compare and contrast capitalism and socialism economic systems.
- Explain how changes in employment impact the United States economy over time.
- Analyze the causes of the Great Depression and the impact on the United States politically and socially.
- Identify the causes of World War II and reason the United States entered the war.
- Explain the effects World War II had on American culture and social life in Nevada and the United States.
- Examine the Holocaust.
- Describe the impact military and atomic testing had on Nevada.
- Use the Internet to find information and create digital products.

**Supporting your child’s learning at home**
- Discuss the importance of culture and how it impacts history.
- Discuss current events and historical reasons for the emergence of these events.
- Attend different cultural events in the community.
- Read and discuss the technological advances in society.
- Read the news (in both print and digital formats) and discuss political cartoons.
- Explore museums related to Nevada history.
- Explore Nevada historical and popular tourist sites.
- Listen to the news, and follow events using digital and social media and discuss United States interactions with other countries.
8TH GRADE SCIENCE

Structures and Properties of Matter*

How can particles combine to produce a substance with different properties? How does thermal energy affect particles?

- Structures are made from different types of atoms.
- Substances react chemically in characteristic ways.
- The term “heat” as used in everyday language refers both to thermal energy and the transfer of that thermal energy from one object to another.

Chemical Reactions*

What happens when new materials are formed? What stays the same and what changes?

- Substances react chemically in characteristic ways.
- Substances are made from different type of atoms, which combine with one another in various ways.
- Each pure substance has characteristic physical and chemical properties that can be used to identify it.

Forces and Interactions*

How can one describe physical interactions between objects and within systems of objects?

- The motion of an object is determined by the sum of the forces acting on it.
- Electrical and magnetic forces can be attractive or repulsive.
- Gravitational forces are always attractive.

Supporting your child’s learning at home

- Encourage your child to observe, ask questions, experiment, find information online, and seek their own understandings of natural and human-made phenomena around them.
- Find an online or print article about a scientific discovery and summarize what it tells you.
- Practice chemistry in your kitchen by mixing baking soda with vinegar and observe the chemical reaction. Use online chemistry apps to create experiments you wouldn’t want to do in your kitchen!
- Relate forces and motion to the movement of a car.
- Ask questions to link material learned in science class to real-world scenarios: Why does ice float? Why do astronauts weigh less on the moon? Why is asphalt hotter than concrete on a summer day?
8TH GRADE SCIENCE (continued)

Energy*

*How can energy be transferred from one object or system to another?*

- A system of objects may also contain stored (potential) energy.
- Motion energy is properly called kinetic energy.
- Energy is spontaneously transferred out of hotter regions or objects and into colder ones.

Waves and Electromagnetic Radiation*

*What are the characteristic properties of waves and how can they be used?*

- A simple wave has a repeating pattern with specific wavelength, frequency, and amplitude.
- When light shines on an object, it is reflected, absorbed, or transmitted through the object.

*Engineering opportunities that allow children to apply what they have learned in science and mathematics. These activities are based on real-world problems to see how science and mathematics are relevant to children’s lives.
SOCIAL AND EMOTIONAL COMPETENCIES

Social and Emotional Learning (SEL) is a process for helping children and adults develop the fundamental skills for life effectiveness. SEL teaches the skills we all need to handle ourselves, our relationships, and our work, effectively and ethically.

- Self-Awareness: Describes an external event or internal feeling that triggered an emotion.
- Self-Management: Reflects on possible consequence, both positive and negative, before expressing an emotion.
- Social Awareness: Understands that social cues may be different among various groups.
- Relationship Skills: Accesses conflict resolution and problem-solving resources with trusted adults, peer mediators and counselors.
- Responsible Decision-Making: Can evaluate how honesty, respect, fairness, and compassion enable him/her to take the needs of others into account when making decisions.

21ST CENTURY LEARNING

Students need to be prepared for this rapidly changing world and it is critical that we give them a well-rounded experience that includes not only strong academic content, but essential skills that prepare them for careers and college and help them to think critically, solve real-world problems, speak and write clearly, and work productively with others. These competencies, known as 21st century competencies, include:

- Collaboration: working effectively in pairs or groups
- Knowledge Construction: generating ideas and understandings about the world
- Real-World Problem Solving and Innovation: defining and developing solutions to problems
- Use of Technology for Learning: using technology creatively to construct knowledge
- Self-Regulation: planning and improving work over time
- Skilled Communication: connecting and expressing ideas to an audience

ELECTIVE CHOICES

Middle schools offer a wide range of elective offerings for students. These areas of learning beyond the areas of reading and writing, mathematics, science, and social studies can include:

- Music – Chorus, Band, Orchestra
- Foreign Language
- Physical Education
- Family and Consumer Science
- Computer Technology
- STEM lab
- Visual Arts
- Performing Arts
- Support classes

Please contact your child’s school for the list of electives available at the site.