

Academic Growth Charts Ninth Grade

Adult & Child

Therapeutic Foster Care Licensing Program

Academic Benchmarks

- * **States across the country are implementing new standards for student achievement, designed to better prepare young people for careers and college.**
- * **These academic benchmarks are meant to help parents understand the course material for each grade.**
- * **They are based on the standards in most of the country and are intended as a general resource for parents, not as a comprehensive breakdown of the contents of your child's curriculum.**
- * <http://www.parenttoolkit.com/>

Ninth Grade Overview

- * 9th grade and the beginning of high school marks a decisive phase in your child's education.
- * Much of the coursework he/she will be doing, especially as it relates to reading and writing, will be similar to the work in earlier grades, but he/she will be expected to demonstrate more sophisticated analytical skills and writing ability.
- * The math curriculum for individual grades will vary from school to school, so please consult the subject-specific math benchmarks.

English/Language Arts

- * In 9th grade, students read and understand increasingly challenging informational texts that build knowledge in history, science, and other subjects.**
- * They also read and understand a wide range of literature, such as stories, plays, and poems from across cultures and time periods.**
- * In their writing and in thoughtful discussions, 9th grade students learn to consider multiple perspectives and develop stories and arguments that present more than one claim or point of view.**
- * Students also conduct research, considering and selecting information from a variety of print and digital sources.**

Reading

- * Rich & Challenging Texts
 - * Read closely from rich and challenging 9th grade-level texts, with guidance when text is particularly demanding.
- * Citing Evidence
 - * Cite evidence (facts, figures, quotes, or other information) that best supports what a literary or informational text says, as well as what it implies or suggests.
- * Analyzing Theme Development
 - * Analyze the way an author develops the theme or central idea of a text, and which details shape and refine it.
 - * Summarize the text objectively.

Reading

- * Outlining Arguments
 - * Outline the argument and specific claims in a text.
 - * Evaluate whether the reasoning is valid and whether there is enough relevant and meaningful evidence to support the claims.
 - * Identify misleading statements and faulty reasoning.
- * Understanding Vocabulary
 - * Read and understand 9th grade vocabulary, and analyze the way an author's use of language (including word choices and imagery) affects the meaning and tone of a text.
- * Using New Words & Phrases
 - * Use different strategies to understand new words and phrases; for example, use context as a clue; use related words as a clue (*conceive, conception, conceivable*); consult a dictionary or thesaurus online or in print.

Writing

- * Developing Arguments
 - * Write arguments to support claims on important topics or texts, using valid reasoning and relevant and sufficient evidence.
 - * Develop claims and counterclaims fairly, providing evidence for each while also pointing out their strengths and limitations.
- * Informative Papers
 - * Write informative or explanatory papers that examine a topic and express ideas by carefully selecting and analyzing information.
 - * Use precise language and content area vocabulary to express ideas.
- * Creating Stories
 - * Write stories or narratives about real or imaginary experiences.
 - * Set out a problem, situation, or observation; establish one or more points of view; and develop story elements such as characters, a well-sequenced plot, and descriptive details.

Writing

- * Supporting Evidence
 - * Include evidence from text to support thinking and research.
- * Producing & Publishing
 - * Use technology to produce and publish writing, to work with others on writing, and to link to new information.
- * Basic Rules of English
 - * Use basic rules of English grammar, capitalization, punctuation, and spelling in written work.
 - * Use parallel structure (*Joseph likes to walk, to work, and to eat.*)
 - * Use phrases and clauses to add variety and interest to writing.
 - * Use colons and semicolons correctly.

Listening & Speaking

- * Class Discussion
 - * Initiate and participate in class discussions about complex 9th grade topics, texts, and issues.
 - * Be prepared to draw on textual or research evidence when expressing ideas, to respond thoughtfully to diverse perspectives, and to make new connections based on evidence and reasoning that others present.
- * Evaluating Points of View
 - * Listen to and evaluate another speaker's point of view, reasoning and use of evidence.
 - * Identify faulty reasoning or misleading evidence.
- * Giving a Presentation
 - * Give a well-organized presentation, expressing information, research findings, and supporting evidence clearly, concisely, and logically.

Research & Inquiry

- * Research Projects
 - * Conduct short and long research projects to answer a research question, including a self-created question, or to solve a problem.
 - * Combine information from multiple print and online sources, showing an understanding of the subject.
- * Locating Information
 - * Locate information efficiently; use advanced search methods online.
- * Evaluating Sources
 - * Evaluate the usefulness of each source in answering the research question, and use information selectively.
 - * Cite sources appropriately to avoid plagiarizing or copying.

Tips & Advice

- * ***Keep A Consistent Routine***

- * Now that your child is in high school, his/her academic success will have more bearing than ever on his/her future. As his/her social and extracurricular schedule gets busier, it's important to keep him/her focused on schoolwork and to make sure that he/she has an effective and consistent homework routine.

- * ***Encourage Reading and Discussion***

- * Continue to encourage your child to read as much as possible. Make sure he/she's staying on top of his/her assigned reading and also that he/she has enough down time for leisure reading. Consider choosing books or even long magazine articles to read together that you can then discuss and debate. Talk to him/her about things you're reading and find interesting, and prompt him/her to do the same.

Tips & Advice

- * ***Share Your Struggles***

- * Reading classic literature, such as Shakespeare, can be intimidating. As your child reads books read when you were his/her age, tell him/her about your struggles and success with the same texts. Just knowing that you also went through a similar experience could provide some needed encouragement for him/her.

- * ***Use Technology to Build Vocabulary***

- * As your child progresses through high school, specialized vocabulary becomes increasingly important in many of his/her classes. If your child uses a smartphone or iPad, help him/her locate apps that focus on vocabulary development for specific subjects. There are many versions of digital flashcards that can help your child expand his/her vocabulary.

Tips & Advice

- * ***Discuss The News***

- * Help your child become a more discerning consumer of news and information. Have an ongoing discussion with him/her about how you get your news and how you decide which sources to trust. Point out examples of misleading information you see, such as in ads, so that your child learns to be skeptical of some sources. Have him/her look for corrections in the local newspaper so that he/she sees examples of how news can be misreported. Bookmark some Internet sites that you consider reliable and that he/she can use as reference or information sources.

- * ***Ask About School***

- * Depending on how moody your adolescent is, it could be more difficult than ever to have extended conversations with him/her. Regardless, continue to ask him/her regularly about what is going on at school, how he/she's doing in class, what he/she's struggling with, and which subjects he/she is enjoying.

Tips & Advice

- * ***Discuss Career Possibilities***

- * As your child starts to think about future study concentrations and even career possibilities, use your discussion of the subjects that interest him/her to steer those conversations. Help him/her start thinking about the expertise that different careers require. What do lawyers need to study? What about doctors or engineers? Suggest family friends or relatives in various professions that he/she can talk to for advice and guidance.

- * ***Suggest Making a Video***

- * Encourage your high schooler to make his/her own videos. He/She could make a public-service announcement for an issue he/she cares about, such as a concern about the environment, a particular product, or a community issue. He/She can start by brainstorming what he/she wants to talk about and doing some research. Next, he/she can learn how public service announcements are structured by watching some online. You can help by talking through with him/her what he/she notices about effective PSAs. Finally, he/she can write the script for his/her PSA, film it, and upload the finished video online!

Tips & Advice

- * ***Encourage Longer Writing Projects***

- * The long days of summer are perfect for teen writers to take on bigger projects. Challenge your high schooler to uncover the stories of relatives, neighbors, or friends and to turn those stories into a published history project. For example, he/she might investigate who has lived in the neighborhood the longest, how the street has changed, or what happened when relatives moved to their current home. Start by helping your teen develop a list of questions. He/She can then interview these relatives and neighbors to find out some interesting facts and stories and write up the findings as a narrative, a poem, or even in question/answer format. Finally, he/she can illustrate or take photographs to make the history come alive!

- * ***Include Writing in Your Family Traditions***

- * Help your child be a part of your family holiday traditions and include writing at the same time. Have him/her interview elderly family members or friends about their traditions in celebrating the holidays. He/She can then turn the information from these interviews into several kinds of writing, from photos with captions to illustrated stories to poems. These writings could turn into a special and much-valued gift to the family member or friend.

Tips & Advice

- * ***Play Word Games***

- * Word games are a great way to get your children to see the magic of language. Playing with words can be the beginning of good writing.
- * Here's one idea to try with your high schooler: Together create 6-word memoirs that capture a moment in their lives. For example, if your teen has just finished his/her first day of school, he/she might write, "New universe, old self, what now?" If he/she's dreading a hard test, you might write, "Killer test awaits. 3 more hours."

- * ***Encourage Reading About Famous Scientists and Inventors***

- * Encourage your child to read biographies of famous inventors, scientists, or computer experts, like Steve Jobs or Albert Einstein.

Mathematics: Algebra

- * For high school students, math skills and understandings are organized not by grade level but by concept.
- * In High School Math: Algebra, students work with creating and reading expressions, rational numbers and polynomials, and the conventions of algebraic notations.
- * They apply these skills and understandings to solve real-world problems.

Algebra

- * Understanding Equations

- * Understand an equation as a mathematical statement that uses letters to represent unknown numbers (such as $2x-6y+z=14$) and is a statement of equality between two expressions (“this equals that”).
- * Explain each step in solving a simple equation, and construct a practical argument to justify a solution method.
- * Graph these equations on coordinate axes with labels and scales.

- * Rewriting Expressions

- * Identify ways to rewrite the structure of an expression. For example, recognize that $x^8 - y^8$ is the difference between two squares, and can also be written: $(x^4)^2 - (y^4)^2$ or as $(x^4 - y^4)(x^4 + y^4)$.

Algebra

- * Equation Solutions

- * Understand that some equations have no solutions in a given number system, but have a solution in a larger system. For example, the solution of $x + 1 = 0$ is an integer, not a whole number; the solution of $2x + 1 = 0$ is a rational number, not an integer; the solutions of $x^2 - 2 = 0$ are real numbers, not rational numbers; and the solutions of $x^2 + 2 = 0$ are complex numbers, not real numbers.

- * Polynomials

- * Add, subtract, and multiply polynomials (expressions with multiple terms, such as $5xy^2 + 2xy - 7$).
- * Understand the relationship between the zeros and the factors of polynomials.

Algebra

- * Polynomial Identities
 - * Use polynomial identities to solve real world problems.
- * One-Variable Equations
 - * Create equations and inequalities in one variable, and use them to solve problems, including weighted averages, calculation of mortgage and interest rates, and rate of travel.
- * Graphs
 - * Represent, interpret, and solve equations and inequalities on graphs, plotted in the coordinate plane, and using technology to graph the functions and make tables of values.

Mathematics: Number & Quantity

- * For high school students, math skills and understandings are organized not by grade level but by concept.
- * In High School Math: Number and Quantity, students extend their understanding of number to imaginary numbers and complex numbers, and work with a variety of measurement units in modeling.
- * Emphasis is on using numbers – in calculations, equations, and measurements – to solve real-world problems, including those that students themselves quantify and define.

Number & Quantity

- * Rational & Irrational Numbers
 - * Understand and explain why:
 - * the sum of two rational numbers is rational (sum can be written as a fraction or decimal)
 - * the sum of a rational number and an irrational number is irrational (sum cannot be written as a fraction; written in decimal form, is non-repeating and unending)
- * Interpreting & Converting Units
 - * Consistently choose and interpret units in formulas; scale drawings and figures in graphs, data displays and maps.
 - * Convert rates and measurements (grams to centigrams, inches to feet, meters to kilometers, miles to kilometers, square inches into square feet, etc.).

Number & Quantity

- * Real-World Problems

- * Use measurement units in modeling to solve real-world problems – for example: acceleration, currency conversions, per capita income, safety statistics, disease incidence, batting averages, etc.)

- * Complex Numbers

- * Understand that complex numbers are formed by real numbers and imaginary numbers – imaginary numbers that, when squared, give a negative result: $i^2 = -1$.
- * Use the relation $i^2 = -1$ to add, subtract and multiply complex numbers.

Number & Quantity

- * Understanding Vectors
 - * Understand a vector as a quantity that has both magnitude (length) and direction.
 - * Add and subtract vectors.
- * Velocity
 - * Solve problems involving velocity and other quantities represented by vectors.

Tips & Advice

- * ***Access Online Resources***

- * For many parents, the biggest challenge they face helping their child with high school math is that the material is too difficult for them to easily help out. Familiarize yourself with the range of online resources, like Khan Academy and IXL, that provide your child with plenty of opportunities to review the concepts he/she is studying, take tutorials, and do practice problems. Even if you can't solve the problems yourself, you can help steer your child toward helpful resources.

- * ***Find a Math Mentor***

- * If your child is struggling with math and doesn't understand what use it could ever be to him/her, it might help for him/her to have a mentor. This could be a friend or family member who uses math in their work, such as an accountant or an engineer or a programmer. Enlist this person to talk to your child to help to demystify math for him/her.

Tips & Advice

- * ***Encourage Persistence***

- * Success in math has a lot to do with taking the time to understand a problem, thinking about different ways of solving it, and persevering if initial attempts to solve it fail. Encourage your child to stick it out with math that he/she finds challenging and to seek help if he/she needs it.

- * ***Subscribe to Magazines That Feature Math***

- * Subscribe to magazines like *Wired* or *Popular Science* that cover subjects related to math in an entertaining and informative format.

- * ***Watch Movies That Feature Math***

- * Plan a family movie-watching night around a film that features math, like *A Beautiful Mind*, *Moneyball*, or *The Da Vinci Code*.

Tips & Advice

- * ***Highlight Real-World Examples of Math in the News***

- * Highlight examples of the real-world use of the math concepts that your child is learning when you're watching the news together. Some are obvious, such as statistics and poll numbers that are often cited, and others are less so. Encourage your child do further research into stories that interest him/her and learn more about the math that was involved.

- * ***Highlight Math in Sports***

- * Sports provide an engaging way of exploring a host of mathematical concepts. Any hard-core baseball fan knows that the game can't truly be appreciated without an understanding of some essential statistics, like a player's batting average and runs batted in. Football is also full of statistics, such as the percentage of passes a quarterback completed. If your child is passionate about a sport, he/she'll enjoy exploring it through math.

Tips & Advice

- * ***Ask Your Child to Teach You***

- * Ask your child to teach you the math he/she is studying. The best way to learn a concept is often to teach it to someone else, and verbalizing the ideas he/she is learning helps to clarify them for your child.

- * ***Discuss Math-Related Career Options***

- * Encourage your child to explore ways in which math is used in different careers. How do doctors use math? Engineers? Bankers? What is he/she starting to think of as career goals? Help him/her explore, by researching online or talking to other adults, the role of math in the fields he/she is starting to consider.

- * ***Encourage Investing***

- * Consider giving your child a small sum of money to invest in the stock market. If that's not an option, have him/her open a "fantasy" account and track its ups and downs as though he/she were investing real money.