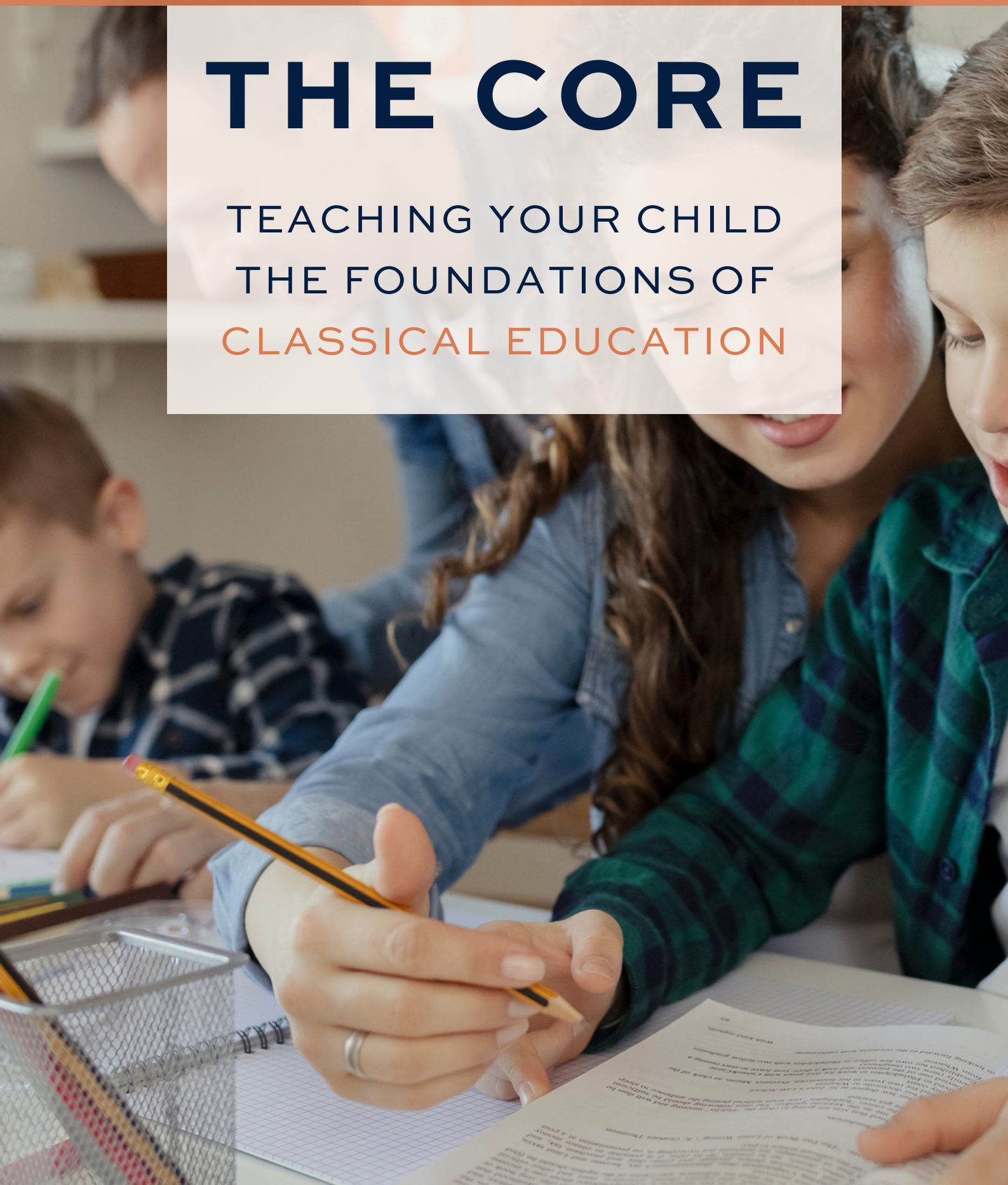
A PARENT'S GUIDE TO

THE CORE

TEACHING YOUR CHILD THE FOUNDATIONS OF CLASSICAL EDUCATION



CONTENTS

CH. 1–3: EXPLORING THE CLASSICAL MODEL

If you're new to Classical Conversations, *The Core: Teaching Your Child the Foundations of Classical Education* by homeschooling pioneer Leigh Bortins will help answer the questions you'll have after the first meeting of your community.

Questions like: "What have I gotten myself into?" and "What do I do with my children at home?" and of course, "How can I begin to give my kids a classical education when I didn't have one myself?"

Meanwhile, even if you're a true CC veteran, you'll be delighted to dive into Leigh's vision for classical education in our local communities. Reading Leigh's book will crystalize your understanding of why we employ the methodologies you have already followed in Foundations, Essentials, and Challenge classes.

And if you belong to either group, you'll have clear answers to give your friends, family, and church members about classical education.

What This Resource Offers

In this resource, we'll examine the need for the classical model, the method of employing the model, and the core knowledge associated with the model, i.e., reading, writing, math, geography, history, science, and fine arts.

We'll also provide plenty of resources and tips along the way!

Let's start with an overview of classical education.

The Core Vision: Why Classical Education?

Let's start by examining why we need classical education in this summary of Chapters 1 and 2 of *The Core*. We'll begin with two questions:

Why do we need classical education? And how's classical education different than modern education?

1. Classical education teaches children how to think.
2. Classical education provides children with caring mentors.
3. Classical education prepares children to work to their true potential.
4. Classical education trains leaders to participate in the Great Conversation.

Classical Education Teaches Children How to Think

In the digital age, disconnected images and ideas constantly bombard children. Now, more than ever, we must focus on teaching essential critical thinking skills.

A classical education emphasizes study skills instead of subjects. These skills, along with a foundation in the principles of logic, enable students to be lifelong learners and clear thinkers.

Classical Education Provides Children with Mentors

At the heart of a classical education is the relationship with parents, tutors, and other mentors who transmit their knowledge and their wisdom. A modern education that employs computers and worksheets does not build a relationship.

When we commit to wrestling with a math problem, puzzling over a Latin paradigm, or applying a literary work to contemporary issues, we communicate love and respect for the children as we transmit the wisdom of our experiences.

Classical Education Unlocks Students' Potential

It's often said that teachers overestimate students' experience and underestimate their abilities. Our modern standards in literacy and numeracy fall far short of the expectations of previous generations.

(For literacy statistics, please see *The Core*, Chapter 1.)

In contrast, a classical education is rigorous and thorough.

Classical Education Trains Leaders and Thinkers

Understanding classical languages and history allows our children to understand our culture and participate in the Great Conversation that is civilization itself.

Our current ideas did not drop out of the sky. Instead, they have deep roots in history, philosophy, and man's previous actions, theories, and discoveries.

Discussing literature, debating philosophy, analyzing history, and repeating science experiments allow students to join in this ongoing conversation of humankind, preparing them to make their own discoveries, redeem the culture, and serve as ministers of the Gospel in any vocation.

Relish your calling and savor the journey!

Next Steps

Curious about classical education or homeschooling in general?
Visit our catalog for articles, resources, and a look into our programs.

CH. 4: READING

Now let's look at teaching your children to read. In Chapter Four of *The Core*, Leigh discusses reading instruction in depth, and in later chapters, she will address the other core areas of knowledge: writing, math, geography, history, science, and fine arts.

Three Notes on Reading

Before we delve into teaching methodologies, let's look at three important notes on reading from *The Core* (p. 90).

Children need to spend time with books in three ways:

1. by hearing books above their reading level read to increase speaking vocabulary
2. by reading easy books below level to master common words
3. by reading books at a comfortable level to increase the child's reading skills

Reading Together: Family Bonding and Read-Alouds

An important aspect of preparing children to read independently is reading aloud to them. Children can comprehend stories well above their independent reading level. Reading aloud as a family builds vocabulary and attention span and creates a love of books and a shared family culture. One of our favorite aspects of homeschooling is our read-aloud time as a family.

Reading aloud to the children in the mornings works well in my home.

We cuddle comfortably in the den with PJs and blankets and read while our breakfast cooks. My younger children often color, build with blocks, or work puzzles while we are reading. I allow the smallest ones to wander out after 30 minutes or so.

We have delighted in prairie life with the Ingalls family, explored the imaginary worlds of Narnia, and traveled the world with the Swiss Family Robinson, Phileas Fogg, and many others.

I know these will be my favorite memories of homeschooling.

Reading Alone: Phonics Instruction at Home

If you fall into a certain age group, you may be familiar with the whole language method of teaching reading or the "look-say" method. In the 1950s, public schools adopted this method wholesale as the latest and greatest method for teaching reading. Unfortunately, a drop in literacy and reading fluency followed for the students who were taught using this method.

I was fortunate to live in a home where my mother recognized this method as the cause of her slow reading speed, so she instructed me in phonics before I entered kindergarten. I credit my mom's insistence on following this model with my literacy success.

Throughout history, children have learned to read phonetically. The phonetic method employs the classical methodology. As we have learned, grammar-age students (ages 4–12) learn well through memorization and recitation. Beyond learning to speak, the first memory work our children undertake is memorizing the alphabet and the sounds that go along with each letter.

My oldest three children (ages eleven, nine, and six) all learned to read while sitting on my lap. We made flashcards for the letters and the letter combinations (sometimes called phonograms). The only supplies needed are a complete list of the phonograms, a black marker, and index cards. There are now many excellent phonics resources available to homeschoolers.

One complete classical resource for writing is the Writing Road to Reading, which you can find in the Classical Conversations Bookstore.

Next Steps

Looking for reading lists, book reviews, and other literary insights? Visit our blog for a wide range of articles on reading and more.

Reading Aloud: First Books and Fluency

Once children have mastered the sounds of individual letters and their combinations, they can begin to practice reading independently. To read for fluency and mastery, children must practice elementary books below their reading and comprehension level.

In my home, I like to use old-fashioned phonics readers that practice a particular combination over and over until it becomes easy (see resources section). When selecting reading material for young students, ensure the text is large and simple.

Children still need to practice reading skills with literature below their reading level as they grow. When my children reach the age of eight or so, they encounter books in three ways daily:

1. through read-alouds with mom
2. by reading independently below age level
3. by reading independently at age level

When choosing read-alouds, I usually select books above their independent reading level. Sometimes I read to them. Other times, we listen to audiobooks, especially on car trips.

For independent reading below age level, we pursue books of their choice at bedtime, in the car, or at their siblings' fine arts lessons or sports practices. Why?

Because I want my children to increase their reading speed and comprehension and learn to love books.

As for independent reading at age level, I choose quality literature for my children to complete on their own every year at the pace of a chapter a day. I use these selections to challenge their reading skills as they have more complicated ideas and vocabulary than our read-alouds or "read-for-pleasure" books.

Thus far, we've examined the reasons for pursuing a classical education.

We observed how the classical model works with a child's natural stages of mental development and teaches them how to think rather than what to think.

We also looked at applying the classical model to teaching children how to read, noting that the classical method of teaching reading is to teach phonetically, and how we must cultivate a love of great stories by sharing them as a family.

Now, let's turn our attention to the core of writing, which Leigh outlines in Chapter 5 of *The Core*. Teaching a child to write classically involves following the skills that make up the trivium: grammar, dialectic, and rhetoric.

The fundamental skills of the grammar stage—handwriting, spelling, and copywork—lay the foundation for writing. Dialectic students can progress to the technical vocabulary of grammar and analysis of sentence structure. Finally, rhetoric students can hone their skills of expression by employing stylistic techniques that allow them to express complex ideas.

The Grammar Stage: Foundations of Writing

When children are very small (ages 4–7), you must help them lay the foundations for writing by establishing good habits.

Small children must learn the correct posture and how to hold their pencils correctly.

It's hard work to copy letters, so children (and parents) need patience, diligence, and lots of practice. Preschoolers can start writing on a dry-erase board or a magnetic doodling board using stencils (generally available at office and educational supply stores). Using these tools is less tiring to their hands than paper and pencil when they are very small.

Children must also spend time coloring to develop the muscles and fine motor skills necessary for writing. My children color while we are reading aloud or listening to Story of the World.

When children are ready to write with pencil and paper, they can use a basic handwriting curriculum and resources like PreScripts.

Copywork and Dictation

They must first master the lowercase and uppercase letters before copying words and sentences (around ages 6–7). Once they can copy sentences, children should practice copywork and dictation. Copywork involves copying a sentence or a short passage from the board or a book. Practice with both is ideal.

If you don't have a chalkboard or whiteboard at home, you'll find investing in one is a good idea. We purchased a large sheet of shower board from a home improvement store and mounted it in our schoolroom with mirror brackets (for a total cost of $15).

During copywork, students should pay attention to capitalization and punctuation. I assign my children passages of dialogue to learn how to punctuate quotes. They copy poems to learn the rules for punctuating and indenting lines of verse. Classic collections of children's poems are easy to find.

In addition to copywork, children should practice dictation. During dictation, children must figure out the spelling, capitalization, and punctuation for themselves, making it a different skill from copywork. Many spelling curricula offer dictation resources such as Spelling Plus and its companion resource, Dictation.

Building Articulate Writers

Although these activities may seem tedious to us as adults, they are critical skills that prepare children to write articulately and elegantly later. After all, our Founding Fathers and authors like Shakespeare began their writing careers with copywork, which exposed them to the highest quality of writing styles.

The Dialectic Stage: Learning to Write by Imitation

One of the great follies of modern education is that modern educators often encourage creative writing and self-expression before children have any life experiences that supply the material for the writing or any word tools that supply the method of writing.

A classical education instead pursues the time-tested method of learning to write paragraphs and essays by summarizing and rewriting source material.

Imitative Writing Techniques

In other words, we give the students the content. Then, students build their word banks by adding quality adjectives, strong verbs, prepositional phrases, subordinate clauses, and adverbs. Because older grammar stage children (ages 9–12) have not necessarily built a large vocabulary, we give them word lists to start with and then teach them how to use a thesaurus. In our Essentials and Challenge programs, we follow the Institute for Excellence in Writing methodology, which encourages this imitative method.

Students can practice their writing skills with any source material. I've had my children summarize the Classical Acts & Facts history and science cards used in Foundations as well as the Copper Lodge Library series for fables and other stories. They can then use their outline to write their version of the original material. And, finally, they can use their word lists to enhance their composition.

Weekly Writing Practice

Just as smaller children need daily practice with handwriting, older children need weekly practice with writing. We can reasonably expect children ages 9–10 to summarize and rewrite a quality paragraph each week. Children ages 11–12 can write two or three paragraphs a week.

The Rhetoric Stage: Organized, Analytical, and Elegant

As our children progress to the rhetoric stage of writing (ages 13–18), they have will have enough skills and practice to begin writing without a model or source. Instead, high school students should be encouraged to write about all of their subject studies: history, science, philosophy, literature, etc.

Analyzing Worldviews and Comparisons

In the dialectic stage, students begin to write without a model by presenting opinions in literature and current events or by summarizing and reporting on scientific facts. These compositions begin to look like the five-paragraph essay, which includes an introductory paragraph, a thesis statement including three topics to be discussed, three topic paragraphs, and a concluding paragraph.

As they transition to the rhetoric stage, students move away from summarizing facts and toward analytical writing. For example, in literature, students move from book reports—which report the background, characters, plot, and theme—to comparing two works of literature or analyzing the worldview of a classic novel. In history, students move from summarizing important WWII battles to arguing that the Allied victory depended primarily on D-Day and Hiroshima.

Organized and Elegant Compositions

A rhetoric student's writing should be well-organized. They should support points of argument with the source material. Their sentence structure ought to be more complex and their diction more elevated. In their conclusions, rhetoric students should move beyond mere summary to an evaluation.

For example, what lessons can we learn today from analyzing Brutus' decision to assassinate Julius Caesar?

(To assist your students with this challenging skill, have them pay close attention to quality sermons. Pastors almost always conclude their sermons by asking the congregation to change their thinking or behavior).

Developing Character and Skills

Learning to argue persuasively and write eloquently requires the same character qualities that we asked of small children when they were learning to form letters: diligence, patience, and practice. Older students must be encouraged to wrestle down complex ideas and to revise, revise, and then revise some more.

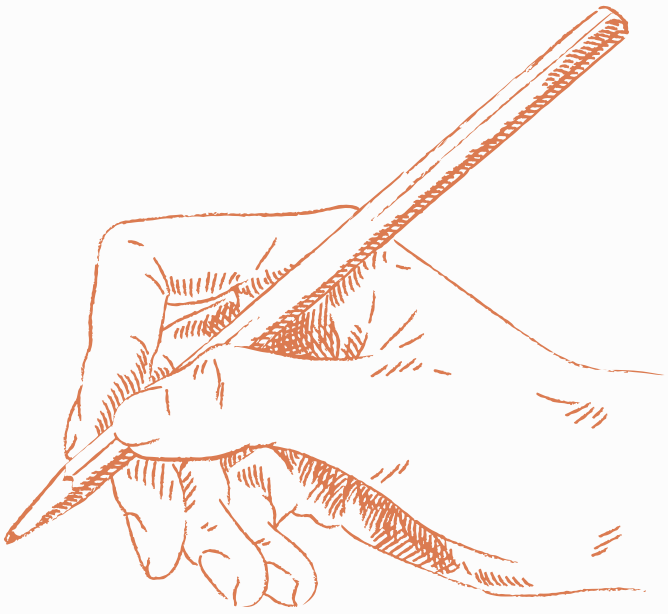
Modern Confusion vs. the Classical Vision for Writing

As classical home educators, we must shed the modern cultural notions that writing, like fine arts, cannot be judged. There are standards for good writing. When we don't follow these standards, we produce bad writing.

Although writing is a creative experience, the process is not formless or mystical. We can learn the tools of writing and teach them to our children.

Next Steps

Join the great conversation with other parents on classical education. Connect with us on Facebook, Instagram, and Pinterest.



Would you call yourself a math person?

Rediscovering Math: A Personal Journey

Years ago, I would have called myself a literature or a language person. I graduated college with a degree in English and a minor in French. I always liked math, but I never took another course after high school calculus. Now, at home with my children, I get to delve into numbers all over again. There's something satisfying about lining up an equation and solving the puzzle.

The news is full of talk about how American students must do better in math and science competitions with their international peers. Yet, how can they when American math education is experiencing a crisis as educators abandon time-tested methods for teaching arithmetic, algebra, and geometry—the building blocks for higher math?

Crisis in Math Education: A Call to Classical Principles

As Leigh notes in Chapter 6 of *The Core*, we can demonstrate the educational crisis in math by looking at the index of recent math books. She quotes education commentator Diane Ravitch:

> *In a comparison of a 1973 algebra textbook and a 1998 "contemporary mathematics" textbook, Williamson Evers and Paul Clopton found a dramatic change in topics. In the 1973 book, for example, the index for the letter "F" included "factors, factoring, fallacies, finite decimal, finite set, formulas, fractions, and functions." In the 1998 book, the index listed "families (in poverty data), fast food nutrition data, fat in fast food, feasibility study, feeding tours, ferris wheel, fish, fishing, flags, flight, floor plan, flower beds, food, football, Ford Mustang, franchises, and fund-raising carnival" (p. 136).*

As Christians, we should sit up and take note. If we believe that God has created a well-ordered universe that follows mathematical laws, then we should desire to learn the language in which he has written it and teach it to our children.

The Goal of Lifelong Learning

When my first child, Ben, was born, I decided to begin tutoring for the local high schools to earn income while staying at home. Every year, I witnessed the same curious phenomenon. At precisely the nine-week mark, I received frantic calls from parents who had the first progress reports in hand and were desperate for a geometry tutor.

I learned two important lessons about math in those years.

One is that our modern way of teaching geometry does not work for our brains. Students had not been prepared for the study of geometry in their previous years of math. Their brains simply could not learn all of the technical vocabulary of geometry, memorize formulas, practice calculations, and prove that the formulas are true simultaneously.

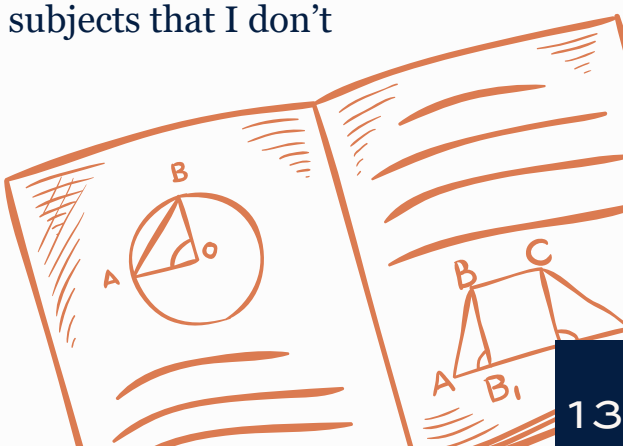
Students struggled with proofs because they were not at the dialectic or rhetoric stage of geometry. They would have been prepared if they had memorized the definitions of diameters, chords, rays, line segments, and isosceles triangles in previous years of math. They would have been even closer to success if they had memorized formulas for calculating perimeter and area and practiced simple calculations. Then, they would have been prepared for the higher-order thinking involved in proving that a formula or theorem is true.

The second lesson I learned is that being a lifelong learner is truly rewarding.

In my geometry class, I could complete proofs. I was reasonably adept at seeing the logical steps to get from the beginning to the end and come up with the correct answers. However, as an adult geometry tutor, I truly understood how to write these elegant mathematical arguments.

What a joy!

It was an excellent reminder to me to keep at other subjects that I don't understand as well, like macroeconomics.



The Trivium and Math

In the previous sections, we looked at the skills associated with each stage of your child's development (the trivium: grammar, logic, and rhetoric). Understanding how to progress through these steps in math is equally important.

To begin at the beginning, small children must begin with math memory work.

Scribblers-Aged Children (Ages 4+)

Here are a few ways you can kickstart your youngest's classical math education:

Read lots of counting books until children can count to 20. (This is important so that they associate the written numbers with the counting sequence). Count with your children while you push them on the swing or jump on the trampoline.

Play math games. When my children were small, I drew large numbers on pieces of construction paper and had them place the corresponding number of toys on the paper.

Grammarians (Ages 4–12)

Work on math memory work every day. Children aged 4 to 8 can practice their Foundations skip counting songs. Children ages 8–12 should practice reciting multiplication tables. Although you may not see why 6-year-olds should memorize the formula for the area of a triangle, they will thank you later.

Develop good math study habits (*The Core*, p. 134). Even when math problems come quickly to a child, they should develop these habits as preparation for high school studies. Here are some specific habits to instill in young math learners:

1. Work on math lessons as a daily habit.
2. Drill and practice for speed and accuracy.
3. Move slowly and overpractice concepts.
4. Demonstrate neatness when writing a problem.
5. Learn inverse operations for practice.
6. Create and explain problems to show competency.
7. Do not permit calculators until trigonometry.
8. Copy each step to self-check the work.

The Trivium and Math

Although the disciplines of teaching and learning math may seem difficult at times, it is worth the struggle. Consider the vision of God's world that we open to our young mathematicians.

Perhaps some of them will be like Johannes Kepler and find fresh truths in the universe for worshiping the Creator:

> "The diversity of the phenomena of nature is so great, and the treasures hidden in the heavens so rich, precisely in order that the human mind shall never be lacking in fresh nourishment."

Next Steps

See classical math in action at one of our events. Drop by an Open House event for a hands-on experience, or attend a Parent Practicum for discussion, practice, and equipping.

Raise your hand if you took a course in geography in school.

Geography: A Lost Subject

I suspect that very few of us could raise an honest hand. My encounters with geography were spotty at best. I once made a map of the state of Oklahoma out of Jell-O for an Oklahoma history course, and I remember a handful of quizzes on unconnected geography terms.

The other day, I leafed through a third-grade geography workbook in the home education section of a local store. I was astounded to see that the geography course was actually a course in reading map legends of imaginary cities. The student assignments involved drawing maps of places in their neighborhoods or towns.

Surely, we need to recover the lost tools of geography!

Recovering the Lost Tools of Geography

Geography once existed in its own right as a subject that required students to memorize countries, capitals, mountains, oceans, rivers, lakes, and geographic terms like peninsula, bay, and plateau. This study has all but vanished, replaced by social studies courses in which students learn how to read map legends and create maps to local places of interest.

Instead of teaching young children about the wonders of the larger world, they restrict them to the narrow vision of their own neighborhood.

It is a curious paradox that educational leaders claim to be preparing students for a global economy while neglecting to teach students about the places on the globe. Just as students of history must be familiar with events and people, classically educated students must be familiar with places.

Students of geography who have learned the location of Orleans have a more complete understanding of Joan of Arc. Students who can find the Swiss Alps' exact location will understand and enjoy reading Heidi more completely. Students who know the countries of Africa will connect with news stories about wars and natural disasters. Perhaps they will even choose a mission field.

How to Learn Geography the Classical Way

In *The Core*, Leigh explores some specific, simple ways to recover the lost tools of geography. One fundamental skill we can recover is cartography—having students draw their own maps.

Prior to copy machines, this was one important way in which students mastered geography. Students drew maps with only pencil, paper, and an atlas for reference. Even the youngest child can draw lines and blobs on paper to represent the Great Circles and the continents.

Cartography: Drawing Maps the Classical Way

Here are the steps for beginning with your family:

1. Obtain a good atlas (with lines of latitude and longitude, continents, and oceans).
2. Give everyone paper and pencils.
3. Draw and label the Great Circles:
   The Arctic Circle, Tropic of Cancer, Equator, Tropic of Capricorn, and Antarctic Circle (younger children should use initials).
4. Draw seven "blobs" for the continents.
5. Label the four oceans: Indian, Arctic, Atlantic, and Pacific.
6. Repeat the project every week until it is easy.

Make the project fun for the whole family by listening to great classical music or literature while everyone draws. For detailed instructions and sample maps drawn by students, please see Chapter 7 of *The Core*.

As children master the above, you can add details to one continent at a time. Have your kids draw one continent each week. They should work on improving the details of their outline of the continent, and they should also label the countries on that continent and ten physical features such as rivers, mountains, and lakes. Another time each week, have them review maps they have created.

Grammar, Dialectic, and Rhetoric

If your children are in Foundations, they will practice these fundamental skills during your community day and in geography camp (ages 6-8) at summer Practicums.

Children in Challenge A will practice drawing world maps all year and will memorize countries, capitals, mountains, rivers, lakes, and the definitions of geography terms. The map-drawing exercises outlined above will be excellent preparation for Challenge A.

If your child missed Challenge A, it's not too late. An older Challenge student can practice drawing maps with their younger siblings or drawing maps of the continents in their Challenge readings.

The Power of a Classical Geography Education

Above all, approach geography with your family as an exciting new adventure of exploring God's world together. When classical Christian students memorize the definitions of terms, they understand the variety of God's creation. When they learn about a small country like Slovenia, they develop a heart for His people. A child who does not know much about the world around him will have narrow horizons.

Like all other core subjects, geography opens doors and expands horizons. So, open the doors and let your children walk through.

Next Steps

Discover ideas for geography activities and other helpful resources on the Classical Conversations YouTube channel.

Through history, we see God's unfolding plan for humanity. We learn about both the incredible triumphs and the failures of humankind. As American historian David McCullough wrote, "History is a guide to navigation in perilous times. History is who we are and why we are the way we are."

We read and remember so that we may, in turn, act wisely.

Studying History the Classical Way

Most of us do not need to be persuaded to study history the way we might need to be convinced to study fine arts or Latin—but we need clear direction on how to study history classically.

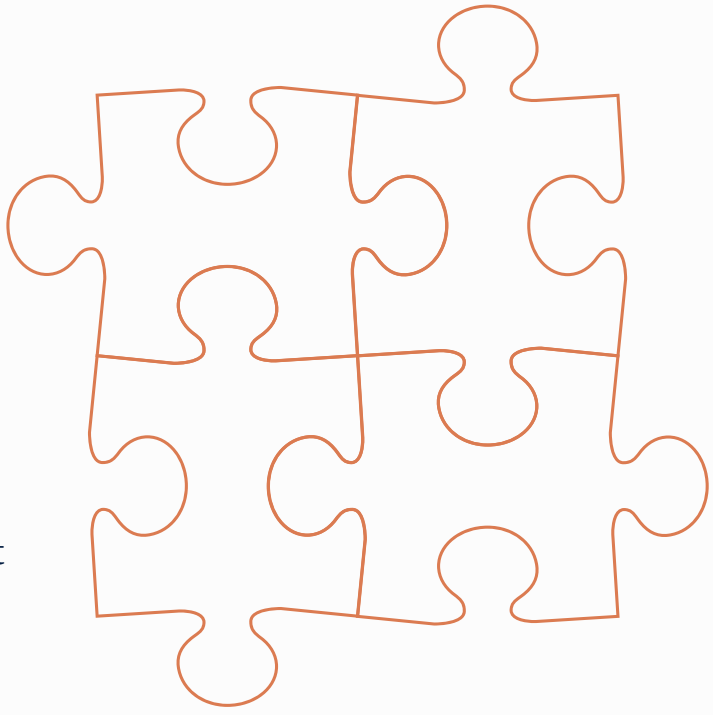
For grammar stage students (ages 4–11), the answer is twofold: Young students need to memorize and recite key information, and they need to be delighted by good stories.

This memorization prepares grammar students to move into the dialectic stage (ages 12–13) when they begin to analyze historical events.

Learning the stories of history not only builds core knowledge but also activates and exercises students' imaginations, which will then become fully engaged during the rhetoric stage (ages 14–18).

The Puzzle of History

Classical Conversations Foundations students complete one part of the puzzle—memorizing core information—by memorizing a history timeline and the history sentences for each cycle every year. The goal is to repeat the information often enough so that it sticks for life.



At home, families complete the second part of the puzzle—the enjoyment of good stories by reading good books together.

The Story of the World

The four volumes of Story of the World by Susan Wise Bauer are a rich source of historical tales that your family will enjoy reading together.

If your family wants to dig deeper, these can be supplemented with high-quality picture books and historical novels. You can assign the novels from Challenge A and B as reading coursework or to be read aloud to very young children. Parents desiring more suggestions may consult the Cycle 2 Resource List on the Classical Conversations Connected Community.

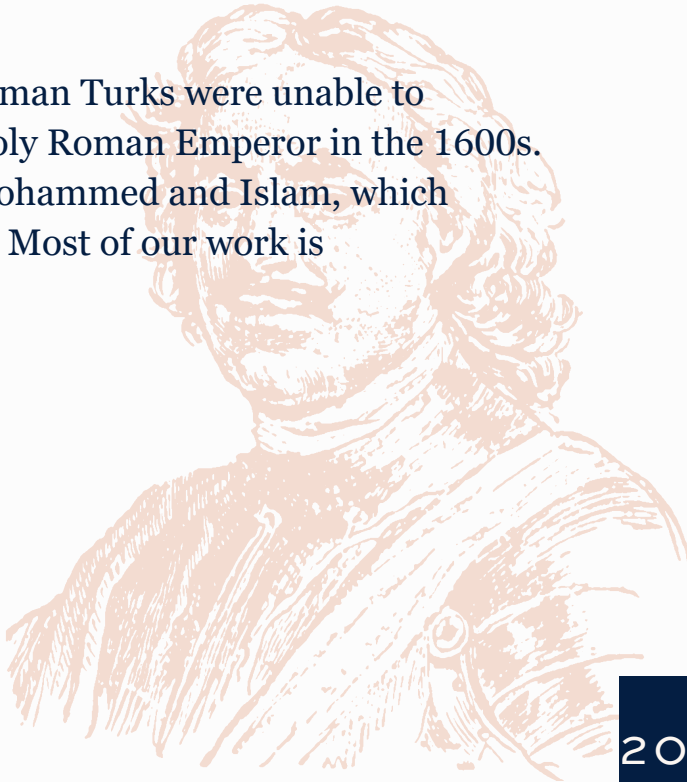
The Grammar Stage of History Studies

So, what does it look like to study history with younger children?

Here are some practical suggestions from my home. First, we review the week's timeline cards and history sentence every morning. Next, we turn to Story of the World directly after our Classical Conversations memory work. While we listen to our history story, my children either color or play with blocks or Legos. Then, after the story, I ask them to repeat everything back to me, or we discuss the questions in the companion guides.

Yesterday, my family listened to a story about Peter the Great and his attempts to westernize Russia. We enjoyed the stories of how the Europeans were appalled by his rustic manners and dress, and we also had a perfect opportunity to review our Cycle 2 history song about the Age of Absolute Monarchs (in which Peter is featured).

Today, we listened to the story of how the Ottoman Turks were unable to conquer Vienna, which was the home of the Holy Roman Emperor in the 1600s. We reviewed our Cycle 1 history song about Mohammed and Islam, which included a snippet about the Ottoman Empire. Most of our work is accomplished through conversation.



The Dialectic and Rhetoric Stage of History Studies

Dialectic and rhetoric students must begin to think more deeply about history while reviewing core knowledge.

In the Challenge programs, students re-examine and add to their core history knowledge by creating history, philosophy, art, and music timelines of important people, events, ideas, and inventions. Students debate history topics, such as the causes of slavery and the issue of statehood for Puerto Rico.

Students practice rhetorical skills by giving music, philosophy, and art lectures. They perfect their presentation skills by memorizing and delivering both historic and original speeches. They write research papers about different historical periods and topics. Building on core knowledge, students analyze history and practice the art of persuasion.

Let us delight in becoming wise by learning the lessons of the past!

Next Steps

Explore the Classical Conversations Bookstore for more history resources like Story of the World and Copper Lodge Library.

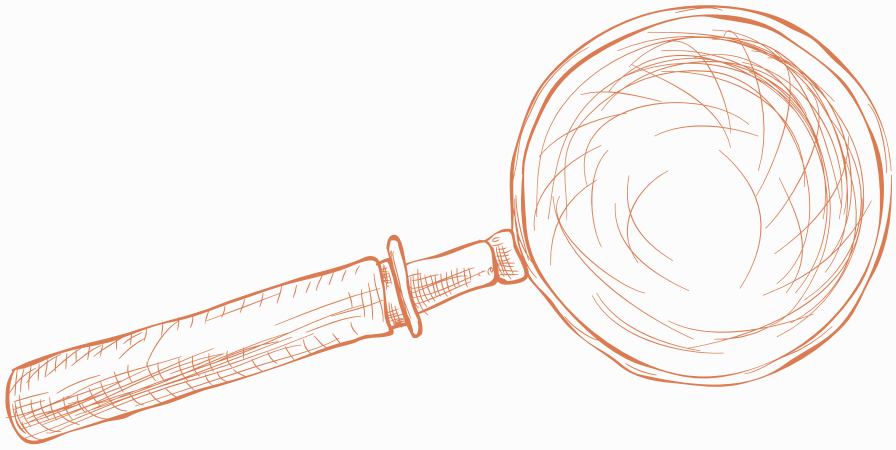
I was the helper in my five-year-old daughter's Foundations class this week when her tutor demonstrated Newton's First Law of Motion with a worn tennis ball and a super bouncy ball—you know, high-tech and expensive science equipment!

Newton's Playground: A Playful Dive into Physics

First, she recited the law several times and asked the children to repeat it. Then, she rolled the ball across the room until it hit the wall.

One of the little boys jumped up excitedly and shouted, "An outside force acted on the ball!" They recited the law again, and she rolled the ball again. This time, it hit the table leg. They recited the law again, and she rolled the ball again.

Then, my daughter jumped into its path and exclaimed, "I'm the outside force." Most of them left the room knowing the law by heart after spending five minutes squealing, giggling, and marveling.



Three Pillars of Learning Science at Home

Consider how we study science classically with our children. There are essentially three ways children learn science:

1. reading about science concepts and learning the technical vocabulary of science,
2. experiencing science through experiments and nature exploration,
3. encountering the ideas of important scientists.

How can we accomplish all of this at home?

The Art of Science

Perhaps some personal examples will help us out here. My nine-year-old daughter loves to draw. This summer, I racked my brain for ways to incorporate her love for drawing into her core subjects. A friend of mine recommended some simple nature readers for children by Christian Liberty Press. A light bulb went on! I purchased the inexpensive nature reader and an even less expensive sketchbook from the Classical Conversations bookstore.

Several times a week, my daughter would read a short selection about fish, amphibians, reptiles, mammals, or birds. In her sketchbook, she drew a picture of these creatures. Below her picture, she summarized (in one or two sentences) what she learned.

This fall, she experimented with pencil drawings, markers, crayons, and colored pencils. Sometimes, she made realistic drawings. Other times, she sketched cartoons with insects making hilarious comments to one another. Her summaries required her to choose the most important or interesting aspect of her reading. She had to work on spelling, capitalization, and punctuation as well (as an Essentials Tutor, I love to sneak in a little grammar).

After about thirty minutes, she had created a priceless keepsake and learned much about nature. We have wondered together as we learned that ants are shepherds of aphids and parasol ants grow fungus gardens. We chuckled together when we learned that snails have only one foot–reminding us of the Dufflepuds in C. S. Lewis's Voyage of the Dawn Treader.

This spring, we will finish the book and transition to sketching what we can observe outside. As she grows older, I will present more challenging source material, including the Classical Conversations science cards.

The Grammar Stage of Science

We want our children to be careful observers of nature, both outdoors and in their readings. In addition, the grammar years should focus on memorizing quality information. The science memory work in Foundations has been carefully planned to prepare for lab sciences in Challenge I–IV.

Planting Seeds for Future Lab Sciences

As Leigh Bortins says in *The Core*, science work during the grammar years should be "minimal, meaningful, and intended to be purposefully revisited throughout the students' years in school" (186). As classical educators, we don't want to cram large amounts of information that will be forgotten. Instead, we want to choose quality information and review it so students will store it for life.

The Scientific Method: From Curiosity to Lab Reports

Finally, our children should be familiar with the scientific method through experiments. In Foundations, very young grammar students should ask: "What did we use?" (materials), "What did we do?" (procedure), and "What did we learn?" (conclusion). Older grammar students should complete the lab note sheets in the Foundations Guide, asking them to record the purpose, hypothesis, materials, procedure, and conclusion.

Just as memory work is practice for thinking about complex concepts in high school science, lab note sheets are preparation for weekly lab reports in physical science, biology, and chemistry.

Ask good questions, read good books, sketch, write, and observe. You and your children are well on the way to thinking like scientists!

Next Steps

CC Connected offers science labs, experiments, and other useful resources for parents and students alike. Learn more!

"Why should my children learn about painting and music when they are really not interested?"

You may have had a friend ask you this question about homeschooling, or perhaps you have even asked it yourself. Studying the fine arts enriches the souls of our children and may spark an interest or talent in something unexpected. More importantly, the arts were created and established by God. If we encourage our children to pursue the arts, perhaps some of them will reclaim the arts for the glory of God.

Maybe they will be part of the next Renaissance.

The Divine Origin of the Fine Arts

In his book, *The Creators: A History of the Heroes of the Imagination*, Daniel Boorstin proposes that Western Civilization has been prolifically creative in the arts because of the underlying Christian belief that humanity is created in the image of God.

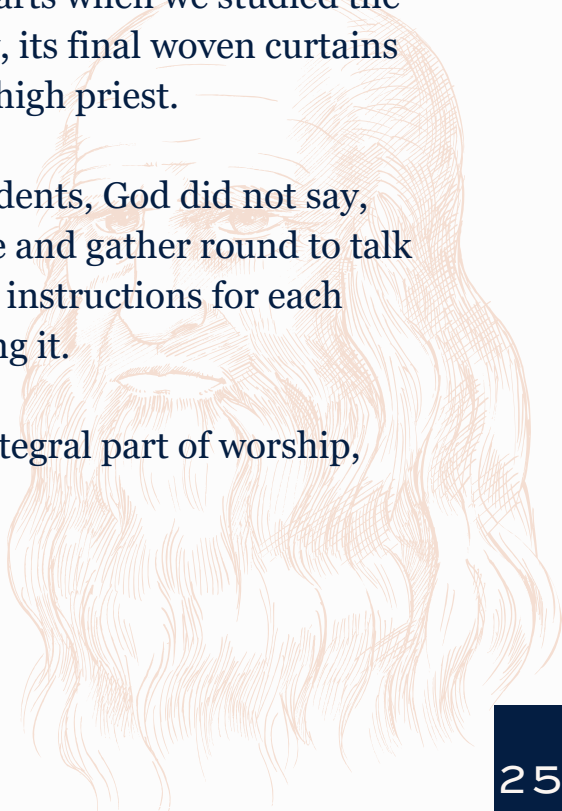
Therefore, since God is creative and a creator, so are people. In *State of the Arts*, Gene Edward Veith further demonstrates that God ordained the fine arts when he commissioned Bezalel, the world's first artist, to oversee the construction and decoration of the Tabernacle. (For further study, see Exodus 35).

The Tabernacle

My family came to a much deeper appreciation of the arts when we studied the Tabernacle, with its intricate gold and bronze statuary, its final woven curtains of purple and gold, and the jeweled breastplate of the high priest.

As I have repeatedly told my family and Challenge students, God did not say, "Just throw together some goat skins over a wood pole and gather round to talk to me." On the contrary, He gave the Israelites precise instructions for each minute detail of building the Tabernacle and decorating it.

Knowing that the arts are important to God, and an integral part of worship, inspires me to learn more about all of the fine arts.



Classical Education and Technical Excellence

Most instructors in fine arts performance—piano, orchestra, drama, and dance—still emphasize the classical model. Teachers instruct their students in the technical vocabulary of their particular discipline.

For example, my young daughter's ballet instructor knows that she must start with the grammar of ballet by showing six-year-olds the five ballet positions and by teaching them technical dance terms such as plié, jeté, and chassé. When I look for instructors for my children, I seek out those who are passionate about passing along the fine technical points of their art.

Continuing the Fine Arts Journey at Home

If you participate in a Classical Conversations program, your children have completed fine arts units on drawing, the tin whistle and music theory, painting, art history, orchestra, and composers.

We can continue to build on these experiences at home, especially in areas that are of particular interest to your child or your family as a whole. Most of you live in areas with a wide range of instruction in the fine arts and plenty of opportunities to attend performances and tour museums.

Here are a few suggestions and personal stories to get you started.

Drawing: Cultivating Realistic Expression

A well-rounded education once included instruction in realistic drawing. If you have access to art classes, look for an instructor who teaches drawing and shading principles and who encourages students to draw from life (still life, and so on). If you prefer to pursue drawing lessons at home, read Mona Brookes' *Drawing with Children*.

In *The Core*, Leigh also recommends Ed Emberley's series of drawing books.

Painting: Mastering the Art of Replication

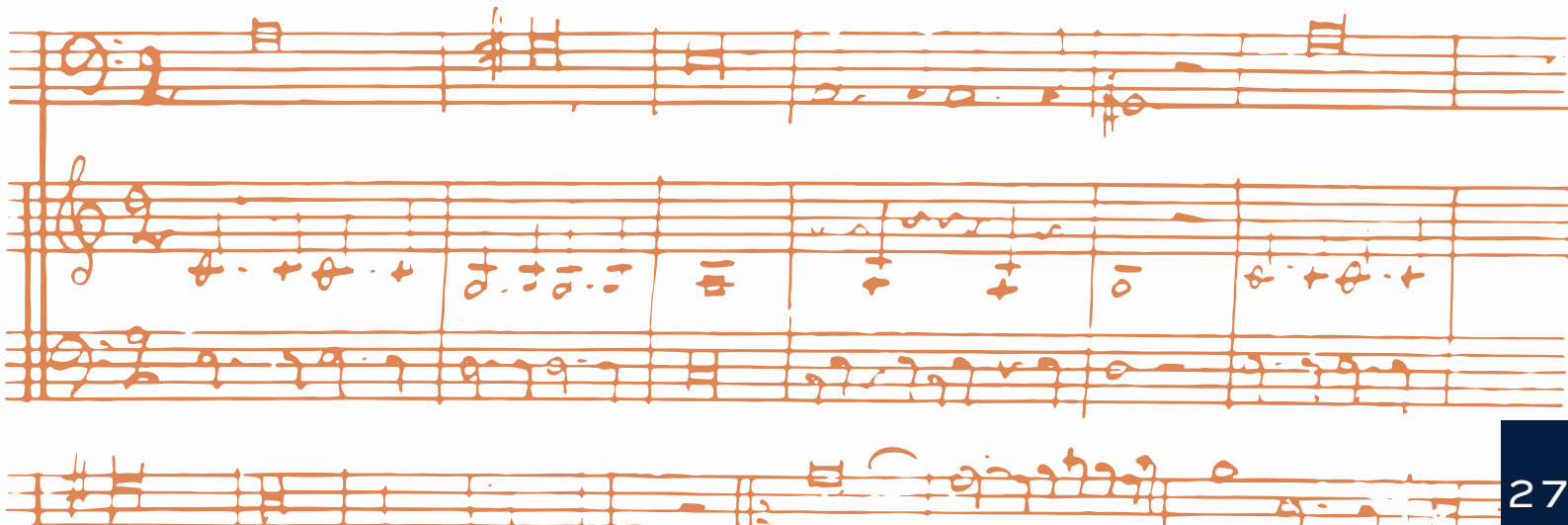
Find an instructor who appreciates the value of learning from the masters by copying their works.

I've been fortunate enough to find an art instructor for my daughter who has had her copy paintings by Van Gogh and Jasper Johns, among others. At home, I can support her efforts by finding children's biographies of these artists and catalogs of their paintings.

Music Performance: Fostering Theory and Appreciation

Look for a teacher who is committed to teaching solid music theory as well as exposing children to classical composers such as Mozart, Haydn, Chopin, Debussy, Beethoven, and so on. Children who enjoy playing are often proficient at teaching themselves popular music, but it takes a good teacher to expose them to a wider array of music.

I am grateful to my own piano teacher, who recognized an affinity between my playing style and Chopin's pieces, which I still enjoy today.



Poetry: The Gateway to Creative Expression

Perhaps the most important key to appreciating poetry is not to be intimidated by it! Start when children are very young by exposing them to nursery rhymes. Memorizing a poem is great for Foundations presentations. Copying and illustrating a poetry notebook over the course of a year is an excellent handwriting activity.

My two personal favorite poetry collections for young children are Eloise Wilkin's Poems to Read to the Very Young and Shel Silverstein's Where the Sidewalk Ends (for days when you need silliness and humor).

Museum Trips: Art Explorations

A trip to an art museum can be informative and enjoyable if you do two simple things.

The first is to acquaint your children with the artists whose work you will see before you arrive. Check out a simple children's biography that contains reprints of their work and discuss the artist before you go. Children are much more receptive to familiar experiences than to strange ones.

Then, if it is available at your museum, pay the extra money for the children's audio headset tour. When my family toured the Getty Museum in Los Angeles, the children's headset tour was more informative and interesting than the adult tour!

Performances: Familiarizing Young Minds with the Arts

Keep in mind again that children are much more receptive to familiar experiences. If you are going to attend a performance of Shakespeare, read a prose summary of the play before you go. (We use Tales from Shakespeare by Charles and Mary Lamb.)

If you are going to an opera, ballet, or concert, read a children's biography of the composer and listen to selections of the music before you go. There are many excellent picture books that retell the story.

Try to choose performances that are more accessible to young children, such as Tchaikovsky's "The Nutcracker" or the "1812 Overture."

Soul Nourishment

Experiencing the fine arts nourishes the soul.

Our children need to contemplate and appreciate beautiful words, music, movement, and paintings.

In the words of Paul, “Finally, brethren, whatsoever things are true, whatsoever things are honest, whatsoever things are just, whatsoever things are pure, whatsoever things are lovely, whatsoever things are of good report; if there be any virtue, and if there be any praise, think on these things” (Philippians 4:8, KJV).

Next Steps

Ready to transform your homeschooling experience with classical education? Find a community near you. Start your classical education journey today!

These are some additional resources that I've found helpful outside of *The Core*.

Reading Resources

General

The Core: Teaching Your Child the Foundations of Classical Education by Leigh A. Bortins

The Writing Road to Reading by Romalda Spalding

Readers for Phonics Practice

American Language Series by Mile-Hi Publishers (includes Fun in the Sun, Scamp and Tramp, Soft & White, At the Farm, On the Trail, and Sounds of the Sea)

Read Alouds

Honey for a Child's Heart by Gladys Hunt

The Book Tree by Elizabeth McCallum and Jane Scott

Family Favorites

The Little House series by Laura Ingalls Wilder

The Chronicles of Narnia by C. S. Lewis

Around the World in 80 Days by Jules Verne

Treasure Island by Robert Louis Stevenson

Any of the literature selections from Challenge A and B.

Writing Resources

IEW's Teaching Writing: Structure and Style

CiRCE Institute's Lost Tools of Writing

Math Resources

The Math Map

Understanding Mathematics: From Counting to Calculus

Using John Saxon's Math Books by John Reed

Saxon Teaching Tapes

Geography Resources

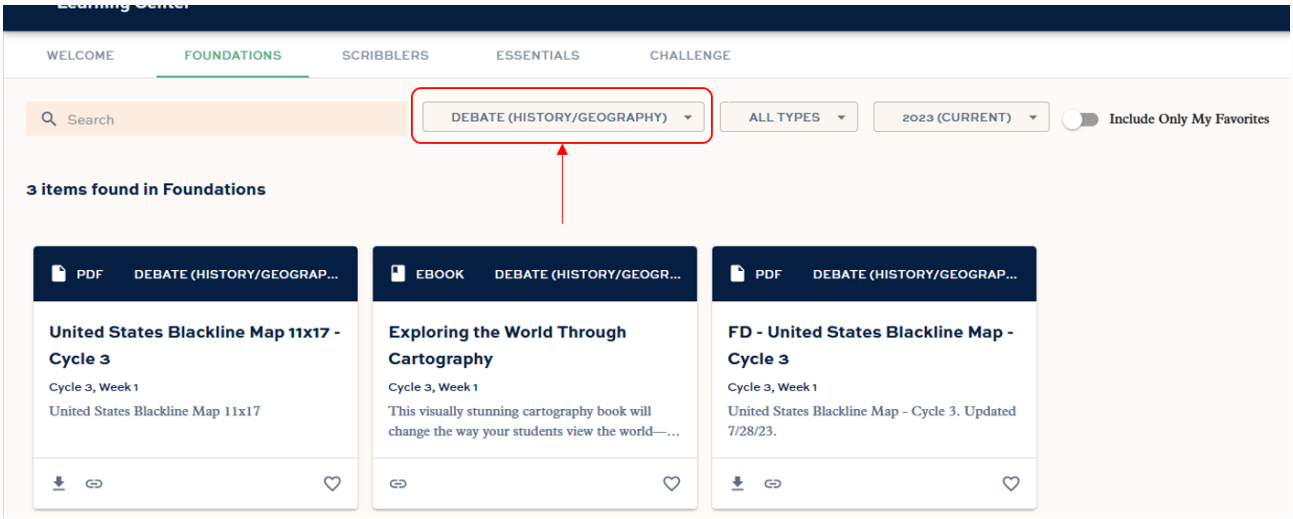
CC Connected has plenty of maps to memorize and trace.

Check out "14 Fun Geography Activities for Homeschool Families" on our blog for more ideas.

Exploring the World through Cartography by CCMM

History Resources

CC Connected



Great American Documents and Speeches

Words Aptly Spoken: American Documents by CCMM

Story of the World series by Susan Wise Bauer

Science Resources for Parents

Christian Liberty Nature Reader, Volumes 1–6, by Florence Bass

Classical Acts and Facts Science Cards by CCMM

CC Sketch Notebook by Classical Conversations MultiMedia

Schedules

How to Plan a Homeschool Schedule

About the Author

Jennifer Courtney

Global Curriculum Director

Jennifer Courtney has a passion for developing curriculum that helps homeschool parents to give their children a classical, Christian education at home and in community.

She and her husband Tim live in Edmond, Oklahoma. They have four children, two of whom have already graduated from Challenge IV and two of whom are current Challenge students. She has been involved with Classical Conversations since 2005.

She currently serves as the Global Curriculum Director for Classical Conversations MultiMedia, Classical Conversations' publication company. She leads a team of curriculum developers as they produce books and assignment guides for CC's programs from Scribblers to Challenge IV. She works to ensure that the team delivers classical, Christian materials that can be used in communities around the world.

In the past, Jennifer has served as the State Manager of Oklahoma, Parent Education Director, Communications Director, Challenge II and III tutor, and director of Foundations and Essentials. She graduated summa cum laude from Oklahoma State University with an honors degree in English and a minor in French. She earned her master's degree in English from University of Illinois and Southeastern University.

One of her favorite projects was designing and developing the Scribblers reader literature series which includes *Ancient World Echoes*, *Old World Echoes*, and *New World Echoes*. She is the co-author of *Classical, Christian Education Made Approachable* and the *Essentials of the English Language Curriculum*, 5th edition. She is currently working on adaptations of Essentials in multiple languages.

In her spare time, Jennifer loves to read, especially 19th century British novels. As a child, she loved Charles Dickens so much that she used to carry a hardback copy of his stories to kindergarten.