

Six Ways, Yea Seven, that Scripture is Integral to our Science and Math Classes

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The Word is God is powerful! ([Eph 6:17](#); [Heb 4:12](#))

The works of God in creation display His glory, power, and righteousness ([Ps 19:1](#); [Rom 1:20](#); [Ps 97:6](#)). However, *the Bible* is required to illumine our understanding of the universe, and the Scriptures provide the lenses through which to view the world aright.

As Calvin wrote in the *Institutes*,

Just as old or bleary-eyed men and those with weak vision, if you thrust before them a most beautiful volume, even if they recognize it to be some sort of writing, yet can scarcely construe two words, but with the aid of spectacles will begin to read distinctly; so Scripture, gathering up the otherwise confused knowledge of God in our minds, having dispersed our dullness, clearly shows us the true God. (I.vi.1; p.70)

Scripture is the normal means by which a sinner comes to faith; the Word of God converts the soul ([Ps 19:7](#); [Rom 10:17](#)). Hearing or reading the Scriptures is the only way we receive true knowledge of Jesus, of the resurrection, and of the Trinity ([Matt 28:19](#); [1 Cor 15:2-4,14,17](#)). In other words, there are *spiritual* truths which are only discoverable through the Scriptures. But this does not mean the Scriptures are irrelevant to the study of *natural* truths.

On the contrary, it is part of our Biblical mandate as God's image-bearers to steward the *natural* world ([Gen 1:28](#)), and God's Word *is* concerned about our right understanding of the natural order as well as the spiritual. While the Bible is not a comprehensive textbook on science (it is comprehensive on matters of salvation), nevertheless, the Bible does provide us with guidance for our quest after natural understanding as well as spiritual wisdom.

What we teach in mathematics and science classrooms is of great importance for fulfilling the divine mandate to take godly dominion over the creation. Since it is the Bible that gives us the mandate to understand creation, the Bible needs to be an integral part of those creational studies, as well.

That being said, and the primacy of Scripture as our final authority being established, we nonetheless also observe that the relationship between Bible-study and world-studies is not exclusively one-directional. That is, the study of Scripture and the study of nature might, in some respects, be regarded as mutually beneficial.

As the mathematician and physicist James Clerk Maxwell testified, studies in the sciences are not only guided by Scripture, but also feed benefits back into our understanding of the Bible. Maxwell wrote,

I think that each individual man should do all he can to impress his own mind with the extent, the order, and the unity of the universe, and should carry these ideas with him as he reads such passages as the 1st Chap[ter] of the Ep[istle] to Colossians (see Lightfoot on Colossians, p. 182), just as enlarged conceptions of the extent and unity of the world of life may be of service to us in reading Psalm viii.; Heb. ii. 6, etc.

Scripture is an important guide for our study of mathematics and the sciences. Furthermore, understanding of these disciplines benefits our understanding of God's Word. In light of these premises, Scripture is integrated into our mathematics and science classes at Covenant Christian High School. There are a variety of ways in which we accomplish this – six, yea seven, of which, follow.

1. Memorize it

Scripture is to be memorized ([Col 3:16](#), [Ps 119:11](#); [Dt 11:18](#)). Ever since I began teaching at Covenant Christian High School I have had my physics students memorize Psalm 19:1 and Romans 1:20. These key verses provide motivation for their study through the year. They are also invited to memorize the context. The students are warned that they will be required to write the verses perfectly, including punctuation, for full credit on the first quiz, the first test, and on the final.

Recommended key verses for other subjects are:

- Biology – [Psalm 139:13-14](#);
- Chemistry – [Colossians 1:17](#);
- Probability and Statistics – [Proverbs 16:33](#);
- Calculus (a study of the infinite and infinitesimal) – [Job 11:7-9](#);
- Algebra (which means restoring the balance to an equation) – [Acts 3:19-21](#), or [Isaiah 53:5](#) (for the principle of substitution).

Again, for example, the year in physics begins by reading through Romans 1:18-32. Discussion about general and special revelation ensues. Each individual person is without excuse regarding acknowledging and responding to God because he has clearly revealed Himself. As Calvin wrote,

But although the Lord represents both himself and his everlasting Kingdom in the mirror of his works with very great clarity, such is our stupidity that we grow increasingly dull toward so manifest testimonies, and they flow away without profiting us. For with regard to the most beautiful structure and order of the universe, how many of us are there who, when we lift up our eyes to heaven or cast them about

through the various regions of earth, recall our minds to remembrance of the Creator, and do rather disregarding their Author, sit idly in contemplation of his works? (I.v.11, p.63)

My goal is that neither I, nor my students, would ever forget His commands ([Psalm 119:176](#)). Like Peter, I intend to remind each *mathetes* (Greek for “disciple, pupil, learner”) of the Word that they know ([2 Peter 1:12-15](#)).

2. Sing it

Colossians 3:16 commands us to, “Let the word of Christ dwell in you richly as you teach and admonish one another with all wisdom, and as you sing psalms.” This passage is taken seriously in the teaching of mathematics and physics at our school. As mentioned previously, the school year begins in physics by considering Psalm 19. Using *The Book of Psalms for Singing* published by Crown and Covenant the class sings God’s Word about general and special revelation and our response to it.

Later, when beginning the unit on electrostatics, we find the answer of who determines how a bolt of lightning splits by singing Psalm 29. It is the voice of our sovereign LORD who divides flames of lightning ([v. 7](#)).

In Calculus we have sung Psalm 16 for its cry to God for perseverance through trying times and its reminder of joy; Psalm 111 because of its insistence that the fear of the Lord is the beginning of wisdom, obedience leads to understanding, and the works of the Lord are great, studied by all those who delight in them; and Psalm 8 for its proclamation of the excellence of the Lord’s name in all the earth and its poetic revisit of the dominion mandate from [Genesis 1:28](#).

3. Apply it

Throughout the year a passage of Scripture is read at the beginning of class to segue into the topic at hand. This application of the Word of God is not in the normal sense of putting it into practice ([Matt 7:24](#); [James 1:22-25](#)) as will be discussed below. Connections are made between physical and sometimes spiritual phenomena recorded in Scripture and mathematical content. For example, [2 Chronicles 18](#) is read to introduce projectile motion. Verse [33](#) especially points to the fact that God is sovereign over this parabolic motion.

In beginning a study of circular motion or centripetal force, [1 Samuel 17](#) is reviewed. The motion of the sling in verse [49](#) is similar to what the students will be doing to collect data in the centripetal acceleration lab.

A final example, this one for Calculus, comes from Exodus 19:12, “Put *limits* for the people around the mountain and tell them, ‘Be careful that you do not go up the mountain or touch the foot of it. Whoever touches the mountain shall surely be put to death.’” Some comments are made about the passage and the question is then posed to the class, “What is a limit?”

These passages and comments are part of two of the chapters of a yet unpublished book I am in the process of writing. Other components of the book, *Christ-Centered Mathematics: Daily Math Devotionals*, are discussed in point 7 below.

4. Test for it

Assessment is a crucial part of education. Even Jesus tested His disciples ([John 6:6](#)). On the final or in preparation for the final exam, some in our math and science department ask the students to reflect on their understanding of the Christian worldview and how it relates to mathematics.

Besides the memory verse question on a quiz and test, there are other opportunities to ask questions on quizzes that encourage critical thinking and making connections between Scripture and what is being studied. In our teaching we draw analogies to explain and help clarify what is taught, so it is right to assess this. The following question is included in a quiz after Newton's three laws of motion are taught:

Our knowledge of God is analogical. What orthodox, or non-heretical, spiritual analogies can be made from the 3 laws of motion? (Be careful to avoid false concepts like we are saved by works (see [Eph 2:8-9](#)), or confusing and dividing the persons of the Trinity — see the definition of Chalcedon or the Athanasian Creed at <http://www.gty.org/~phil/creeds.htm>)

Give complete sentence explanations. [Fill in the following blank]

Example: (i) *The kingdom of God is like the _____ law of motion, because we come to the Lord when He draws us - (John 6:44).* (ii) *Or we see this same principle in Malachi 3:7 "Return to me, and I will return to you," says the Lord Almighty. And again we can only return to him if He has redeemed us (Isaiah 44:22).* (iii) *Furthermore, there are consequences when we sin: Paul wrote in Rom 6:23, "The wages of sin is death."* (iv) *We also see this principle when we pray: "Ask and it will be given to you; seek and you will find; knock and the door will be opened to you. For everyone who asks receives; he who seeks finds; and to him who knocks, the door will be opened" (Matt 7:7-8).*

These are spiritual analogies to Action-Reaction, but like most, this analogy falls apart because I could never exert an equal and opposite force on God. He is sovereign and like He says in Isaiah 46:10, "My purpose will be established, and I will accomplish all My good pleasure."

Now, come up with a spiritual analogy for one of the other two laws. (You are not required, but are welcome, to use your Bible to give references. Be careful not to give a wrong interpretation of a passage or you will not get full credit.)

Like worship in the Tabernacle was a shadow pointing to heavenly realities, sometimes physical phenomena clearly remind us of spiritual truths. Indeed, the world is full of reminders of God and His Word: like a rainbow, birds of the air, or the grass and lilies of the field.

5. Obey it

My classroom expectations or rules come from Scripture. Regarding academic integrity, Leviticus 19:11 is cited: "Do not steal, do not lie, do not deceive one another." Cheating or plagiarism (1) dishonors God, (2) disrespects the teacher, and therefore parents, (3) defrauds others, and (4) ultimately cheats the student out of an education. The main passage that conveys a student's proper academic philosophy is Colossian 3:23 "Whatever you do, work at it with all your heart, as working for the Lord, not for men."

Scriptures that explain behavioral expectations include: 1 Peter 2:17 "Show proper respect to everyone." This implies listening when others speak, being polite and not rude. [Ephesians 4:29](#)

similarly encourages edifying speech as opposed to putting others down. “Submit yourselves for the Lord’s sake to every authority among men” ([1 Peter 2:13](#)) is the basis for the rule to follow instructions. Also for the sake of safety (preservation of life principle is found in the sixth commandment), students are not allowed to use any equipment unless instructed. “And whatever you do, whether in word or deed, do it all in the name of the Lord Jesus” ([Col 3:17](#)).

Additionally, at Covenant Christian High School we expect our students to remember the Christian Sabbath day and keep it holy. This year my classes have used WebAssign to electronically do homework problems that have unique numbers for each individual. The students appreciate how it provides immediate feedback for a correct answer. As a teacher I can provide accountability by making homework due Saturday evening so that they can better enjoy the Lord and His day ([Isaiah 58:13-14](#); [Rev 1:10](#); [Ex 20:8-11](#)).

6. Integrate it

Writing entire mathematics lessons that are clearly from a Christian perspective is a challenging endeavor. It takes time and thought to put something together that is not shallow, trite, cliché, or merely pays lip service to Christian principles. There are a few groups that have done solid work in this area.

The Association of Christian Schools International has developed the *Purposeful Design Math* series for elementary grades. It includes themes that integrate the pattern and numbers of God’s creation, and devotional features drawing students to the Creator. ACSI also has a website called “Math by Design: Teaching for Understanding.” I was pleased with the quality of their efforts.

Another impressive resource is RadicalMath.org. Although it does not profess to be Christian, the group helps believers consider how to “love your neighbor” and “who is my neighbor” ([Lev 19:18](#); [Mt 22:39](#); [Rom 13:9](#); [Gal 5:14](#); [Lk 10:29ff](#)). It is a new website that is “packed with over 750 standards-based lesson plans, articles, data sets, and graphs that are searchable by both math skills and social justice issues. RadicalMath.org is hoping to revolutionize the way that people think about mathematics education in this country.” The site addresses so many social issues that there are sure to be some for everyone to disagree with, but it does a fine job at of prompting thought, discussion, and math education. Algebra, Geometry, and Statistics instructors can greatly benefit from this site.

The resource that I am most excited about is Kuyers Mathematics. Last year I had the privilege of piloting most of the lessons. The website describes it as a “fresh approach to mathematics, designed to be both interesting and applicable to the world we live in. It integrates a Christian approach, using mathematics to think about and better understand God, his creation, and our place and calling in the world.” (<http://webapps.calvin.edu/kuyers/math/home.php>) My students especially appreciated and enjoyed lesson 1 “Why should we study math?” and the mentally challenging “Hypercubes” lesson. I have incorporated some of the quotes and questions from “Why should we study math?” into a summer assignment for AP Calculus students. Therefore, they will return to school prepared mentally and spiritually motivated.

7. Read & Exposit it

In Deuteronomy 17:31 the king is given instructions about the Scriptures, “It is to be with him, and he is to read it all the days of his life so that he may learn to revere the LORD his God and follow carefully all the words of this law and these decrees.” As Christian teachers, chosen to be a royal priesthood ([1 Peter 2:9](#); [Rev 1:6](#)), we are to not only read the Word for our own growth, but we are to devote ourselves to the public reading of Scripture ([1 Tim 4:13](#)), making it clear and understandable ([Neh 8:8](#)).

Each day in Calculus I try to begin with the “Math Passage of the Day.” I have been researching and writing a book that could be used to start classes with a short devotional thought. *Christ-Centered Mathematics: Daily Math Devotionals* is an outflow of the *Topical Mathematical Memory Verses* that have been in development since 2002. This was inspired by Navpress’s *Topical Memory System* which has two verses for each topic and a total of 12 passages for each packet. The A packet is “Live the New Life”; B, “Proclaim Christ”; C, “Rely on God’s Resources; and so on for a total of 60 passages. My goal was to gather 90 verses so as to provide a passage, thought, and quote for each day of the semester for my AP Calculus classes. Each of the eight mathematical verse packets consists of about 12 verses. The topics of the packets are:

N	Mathematical Aspects of God’s Nature
O	Origin of Mathematics
P	Purpose of Mathematics and why a Christian should study it
Q	Equations and Arithmetic Operations Demonstrated
R	Rebellion
S	Subject specific verses for Calculus
T	Attitudes and Attributes for Actions
U	Mathematical Sciences

These have become the chapters of the book. In this I will hopefully be better able to encourage teachers to see the connections of the Christian Worldview and what they teach. The book will cite the sources more completely than I have been able to on the pocket-size verse cards.

Through all seven of these ways – memorize, sing, apply, relate, obey, integrate, and read it – teachers and students will infuse their faith more and more into all areas of their life. In the words of Abraham Kuyper, “There is not one square inch of the entire creation about which Jesus Christ does not cry out, ‘This is mine! This belongs to me!’”

Recommended links —

- “Topical Mathematical Memory Verse Cards” for “Christ-centered Mathematics: Daily Math Devotionals” — <http://cs3.covenantchristian.org/bird/links/mathphysc/mathematicsVerseCards.pdf>
For the “Topical Memory Verse Card” outline, see — <http://cs3.covenantchristian.org/bird/links/mathphysc/mathematicsVersesList.pdf>
- History of Mathematics PowerPoints (by Calculus students of Sean Bird) — <http://cs3.covenantchristian.org/bird/links/mathphysc/calcphys.htm>
- “Christianity and Mathematics: Devotionals Connected to Mathematical Content” (by Sharon K. Robbert, professor of mathematics at Trinity Christian College) — <http://www.trnty.edu/faculty/robbert/SRobbertWebFolder/ChristianityMath/>

*I have not departed from your laws, for you yourself have taught me...
Make your face shine upon your servant and teach me your decrees. — Ps 119:102,135*