



Faith &

**BY THE REV. DANA HENDERSHOT
REASONING FOR THE CURRICULUM**

When I was working as a youth minister, I realized that the youth were in class all day. They were learning a lot, and then they would come to youth group in the evening. I didn't want to present the young people with one more classroom. I struggled to keep their interest and still expand their understanding of God's presence in everything.

What really bothered me was that there was no carryover. School classes and youth group were two different things. There was no obvious link. School belonged at school, and God belonged at worship and in youth group.

So, here is a link: a way to recognize God's presence even at school. This is a curriculum on science and faith that is full of information, so you don't have to find it on your own or even know it yourself. It is flexible and easy to follow. It can be used for different group sizes, in the parish or at conferences and retreats.

HOW THE CURRICULUM CAN BE USED

As presented here, the curriculum has a retreat- or conference-style opening and closing, including worship. This design points to God's presence with us as we enter into discussion of faith and science. Youth most often experience God in a worship setting. Therefore, whether the event is a one-day youth conference, retreat, small-group session, or local youth group meeting, surrounding it with worship is important. The design has enough flexibility to be used on separate days. However, as a model for its use, let me suggest the following retreat schedule:

Faith & Science Retreat Schedule

9:00 a.m.	Arrival and registration
9:30 a.m.	Worship
10:00 a.m.	Faith & Science in Dialogue: Can it Happen?
12:00 p.m.	Lunch
12:30 p.m.	Breakout sessions: Brain Connections! Are There Others?
2:00 p.m.	Break
2:30 p.m.	Breakout sessions: Brain Connections! Are There Others?
4:00 p.m.	Worship
5:00 p.m.	Homeward bound

WHY DISCUSS SCIENCE AND FAITH?

Discussion of science and religion can take on different forms. This curriculum has been titled “Faith & Science.” This may be confusing at first glance. What is the difference between faith and religion? Faith is one’s stance toward life and a belief in a truth. It is how one views the world. For Christians, it includes an experience of love that is beyond the physical world. It is personal. Religion, by contrast, is how we put our faith into practice. It is a system of practices, values, institutions and rituals associated with faith that is worked out in a community. Theologically, we reflect on a belief system to help address the question: why? Theology is reflection on our faith and religion.

This curriculum is titled “Faith & Science” because the reflection here is not about a system of practices or values. Instead, it aims to relate personal faith with this age of science. Science is a modern invention, an experimental method of testing which involves forming and modifying theories. This curriculum helps young people engage their own beliefs in relation to science.

The truth of faith has been carried down through generations of traditions and writings. This observation leads to the question: what is truth? There is truth – lowercase t – and there is Truth – capital T. We are in search of Truth with a capital T, but currently we find ourselves with many truths – lowercase t. Our times are so profoundly impacted by science, and faith’s dialogue with it is important for Christians’ search for Truth.

As Christians, we confess in the first article of the Creed, “I believe in God, the Father almighty, Creator of heaven and earth.” God created the universe in which we live, and as caretakers of the earth, it is important for us to understand how it works. God came to earth through Jesus Christ and lived among us as the Word made flesh. God is active today through Christ Jesus and the Holy Spirit. In response to God’s love, we too love and care for the gift we have been given in the world. Science is a means by which we are able to learn how to better care for this world and learn what the universe has to offer.

Theologians throughout history have brought observations of the physical world into theological and philosophical discussions. Science has opened an even larger understanding of the world God created. William Burger writes:

...it is only in an “older” universe that complex life forms can come into being. Based on the analysis of minute grains found associated with meteorites, Armand Delsemme suggests that our solar system was enriched by “at least four different stars. A star rich in carbon, a star rich in oxygen, a star rich in magnesium and silicon, and a star rich in iron.”¹ Clearly, our glorious star was generously endowed with the materials needed to build living things. Together with a liquid medium such as water, complex life forms built largely by the common and versatile carbon atom also require a variety of heavy elements to act as the energy centers of their most critical enzymes ... Humankind is the product of that history; hydrogen, the original stuff of the universe, makes up about 8 percent of our body weight – all the rest of us is stardust.²

We are stardust! All of the living things on this earth are a product of the elements Burger describes. When things that were very different from one another, things that had different characteristics, different goals, and different properties came together, something new and beautiful was brought into being. Various materials along with energy and a “liquid medium” went into our origins, and they might very well not have seemed to “belong” together. But look at the product!

Faith and science have different characteristics, different properties and different goals. At first, they don’t seem to belong together. However, it is important to recognize how significantly science has

¹ Armand H. Delsemme, *Our Cosmic Origins: From the Big Bang to the Emergence of Life and Intelligence* (Cambridge: Cambridge University Press, 2001), 78

² William C. Burger, *Perfect Planet, Clever Species: How Unique Are We?* (New York: Prometheus Books, 2002), 23-24.

affected the ways we understand our role in the world. It is also important to recognize the impact of faith on our views of our place in the world. In this way, science and faith join in meeting our common human hungers. What will this collaboration create? What does the human future hold? We can hope that our understanding of the world will enhance our understanding of God who created the world.

THE REASONS FOR THE SESSIONS CHOSEN

Those who hear of religion and science dialogue are confused and skeptical. The mind jumps to the hot topics of creation, evolution and intelligent design. However, the sessions in this curriculum do not deal with creation, even though I would not be surprised if the topic comes up frequently. We hope to help people realize that in fact there are many discussion topics involving faith and science. The topics we cover here – *Faith & Science Dialogue: Can it Happen?*, *Brain Connections!*, and *Are There Others?* – are only a few being discussed in faith and science today.

The first session was created to help the group gain a better understanding of what it means to have faith and science in dialogue. It will give the group foundation before going into specific topics. The other two sessions were chosen after I met with young people, from freshmen to seniors in high school, from several congregations at a youth gathering in Michigan. I explained the idea behind the curriculum and asked what they would find interesting. Of course, they were each interested in various topics, but I received very positive feedback from almost everyone about discussions of the brain and extraterrestrials.

FAITH & SCIENCE DIALOGUE: CAN IT HAPPEN?

This opening session provides background and tools for discussing science and religion, including Ian Barbour's four different ways of relating the two: *conflict*, *independence*, *dialogue* and *integration*. It is sometimes argued that Barbour's four ways of relating science and religion are too simple. There are authors who argue that there are six or seven different ways. However, for the purpose of this curriculum I have chosen to stick to four. They will be simple for young people to understand and good for creating a basic knowledge of the ways in which religion and science may relate.

Barbour favors some versions of the dialogue and integration models. He argues that conflict and independence leave too many unanswered questions. I agree with Barbour's basic idea here. Science is able to answer some important questions, but it also leaves some basic issues unanswered. The same can be said of religion standing alone. Barbour, a physicist, summarizes:

...scientific materialism and biblical literalism both represent a misuse of science. The scientific materialist starts from science but ends by making broad philosophical claims. The biblical literalist moves from theology to make claims about scientific matters. In both schools of thought, the differences between the two disciplines are not adequately respected.³

I support Barbour's argument: although we need dialogue between science and religion, we cannot carry it too far. There are differences between them. We need to continue to struggle with ways to identify and accept the limitations of both science and religion while uplifting each of their strengths.

There are several methods in which this curriculum teaches the four ways science and religion relate. First, they simply form the basis of the presentation. Second, George Tsakiridis and I created a metaphor involving a basketball court to illustrate them: in each mode, the basketball game would be played differently. For the visual learner, we included four drawings by Josh Ebner. Third, Roger Timm

³ Ian Barbour, *Religion and Science: Historical and Contemporary Issues* (San Francisco: Harper Collins Publishers, 1997), 78.

has provided four metaphors that will help young people understand each of these four ways in which science and religion relate:

Conflict	<i>Oil and Water</i>
Independence	<i>Apples and Oranges</i>
Dialogue	<i>Fruit Salad</i>
Integration	<i>Tossed Salad</i> – though I argue that it's <i>Stew</i> .

BRAIN CONNECTION!

How we may experience God through our brain has been a subject of discussion and research. For example, brain imaging has shown how the brain's blood flow changes during peak spiritual experiences.⁴ These studies have led to the conclusion that it is possible to scientifically observe mystical/spiritual experiences.

However, our day-to-day life is not a peak spiritual experience. We may have experienced a moment when we lost our sense of self and felt at peace and truly in the presence of God. Peak experiences often lead us on our faith journey. Yet, most of us do not experience them every day.⁵ Our faith journey includes love, service and learning, as well as both discouragement and encouragement. Worship focuses our life of faith.

This session addresses the effect of drugs on brain function. Drugs are a reality young people are dealing with today. We will ponder together about what it means for us to use cocaine to fool our bodies into feeling good. Does it matter if we fool our bodies for a couple of hours? Are people of faith less likely to use drugs? How can we instead use our gifts to change our brain structure to enhance our daily experience of life?

During this session we are also looking at brain plasticity. Brain plasticity means that our brain is always learning as we continue to grow and experience life. This learning actually means that the brain physically reshapes its internal connections. We will discuss the reality that our actions of faith throughout our day-to-day lives create changes in our brain structure. In this way and through other actions we begin to form our identity and our calling in life. God calls each of us by name with love. God interacts with us and has given us abundant life and the ability to make choices for ourselves. How has our faith journey so far begun to shape the gifts that we have?

ARE THERE OTHERS?

Many assume that the Christian faith is fragile. They fear that a Christian's beliefs might be shattered if extraterrestrial life were found, because they might think Christ came to only save those on Earth. However, the Christian faith is much stronger than that. Ted Peters, a theologian, observes:

Despite St. Thomas's use of Aristotelian arguments against many worlds, however, Christian theologians have routinely found ways to address the issue of Jesus Christ as God incarnate and to conceive of God's creative and saving power exerted in other worlds.⁶

Is our God earth-centered, or does our God embrace the universe? The Bubble Nebula photograph by the Hubble Space Telescope is from 72 million light-years away. A light-year is the distance that a

⁴ Andrew Newberg and Eugene D'Aquili, *Why God Won't Go Away: Brain Science and the Biology of Belief* (New York: Ballantine Books, 2001).

⁵ James B. Ashbrook and Carol Rausch Albright, *The Humanizing Brain: Where Religion and Neuroscience Meet* (Cleveland: The Pilgrim Press, 1997).

⁶ Ted Peters, *Science, Theology and Ethics* (Burlington: Ashgate Publishing Limited, 2003), 13.

particle of light, or *photon*, will travel in one year. The distance light travels in one year is about 9.461×10^{15} meters (9.461 petrameters) or about 5.879×10^{12} (nearly six trillion) miles. This means that a picture of something 72 million light-years away is showing the way things were 72 million years ago. The Bubble Nebula has probably changed since then. It may not even be in existence anymore. Understanding the vastness of our universe is becoming possible because of advancements in science. It is important to begin to recognize that we are a unique species with special gifts even while we wonder how unique we really are.⁷ But in fact, exploring new ideas of space and time may expand our ideas of God's power.

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⁷ Burger, *Perfect Planet, Clever Species: How Unique Are We?*

THANK YOU

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FURTHER READING

This list contains some of the books that were used as references in creating this curriculum. They are highly recommended for those who are eager to learn more about the dialogue between faith and science or to further explore the main topics covered in the curriculum.

James B. Ashbrook and Carol Rausch Albright, *The Humanizing Brain: Where Religion and Neuroscience Meet*

Carol Rausch Albright has been the inspiration for pointing out the importance that faith is more than a peak experience. Faith is something that we live and breathe every day. This book is useful to further understand the meeting between religion and neuroscience.

Ian Barbour, *Religion and Science*

This book provides a solid resource for the history of science and faith dialogue.

Ian Barbour, *When Science Meets Religion*

This is a condensed version of *Religion and Science* that was released more recently.

William C. Burger, *Perfect Planet, Clever Species: How Unique Are We?*

This book deals with the question of how unique we are through the history of the universe and of evolution.

Andrew Newberg and Eugene D'Aquili, *Why God Won't Go Away*

This book is a resource for learning about the studies that have been done on peak experiences of Buddhist monks and Franciscan nuns.

Ted Peters, *Science, Theology, and Ethics*

Peters has a whole chapter dedicated to "Exotheology: Speculations on Extraterrestrial Life." Peters argues that this subject poses no threat to the Christian faith, but we do need to be in discussion about extraterrestrial life.