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Galileo Galilei: Science and Scripture in Conflict? (Leader's Guide)

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Leader's Guide to

Galileo Galilei: Science and Scripture in Conflict?

A Study of Galileo's Daughter: A Historical Memoir of Science, Faith, and Love

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Summer 2017

How to Use This Material?

This study of Galileo Galilei's experience with the relationship between Christianity and his science, as presented in Dava Sobel's *Galileo's Daughter*, is composed of seven sections that each contain a set of *Reading and Reflection* questions. *Reading and Reflection* questions are to be completed before each meeting and are meant to help the participant wrestle with the concepts introduced in that week's chapters. Your groups should by no means limit itself to the questions contained in these sections.

This study is intended for **informal, small group** discussion, such as that of a Bible study, catechism, or family reunion. Each theme may be unpacked on its own, but it is the hope of the authors that the entire study may be useful to the interested reader (leader and participant alike). The study is also aimed toward **high school students, college students, and post-college adults** with an interest in how science and the Christian faith interact.

As you read, it is our hope that you will come across (and come up with) questions which challenge you, both in understanding your personal faith and in understanding science. In these questions, you will have the opportunity to grow through asking and answering these questions in a healthy setting. Consider the context and history of these questions: Why has the church historically believed in *this* answer or *that* answer? What might you say if you were a Christian scientist? How might you be challenged to defend your answer?

Planning and Preparing for a Session

The material assumes that each session will have about 30–45 minutes in which to meet. It also assumes that each participant will have read the assigned sections of *Galileo's Daughter* ahead of time, as well as studying the Reading and Reflection questions associated with that week. In order to prepare effectively for each meeting, all participants (including the leader or co-leaders) must answer the Reading and Reflection questions before the session. It must be noted that these questions are intended as a guide for your discussion, but a spirited discussion may head off in any direction – plan accordingly for the flexibility of your small group.

Equipped for Service

This “Leader’s Guide” is meant to **equip leaders** of these small group discussions, and thus the following pages are far more detailed and expansive than the average participant may judge necessary for complex discussion. We offer information directly from *other references, topics* for each session (as implied by session titles), and *suggested answers* to the questions posed in the text. This has been done in the hope that you, as the leader, may more easily facilitate and moderate discussion in and amongst your peers in the small group. Your small group may be made up of the generation that initiates change in how the common Christian comes to understand these questions and answers – in the service of your peers, do not underestimate your own significance as a leader or co-leader.

Who is the author of *Galileo's Daughter*?

Dava Sobel, a former *New York Times* science reporter, is the author of *Longitude*, *Galileo's Daughter*, *The Planets*, *A More Perfect Heaven*, *And the Sun Stood Still*, and *The Glass Universe*. A longtime science contributor to *Harvard Magazine*, *Audubon*, *Discover*, *Life*, *Omni*, and *The New Yorker*, she received the 2001 Individual Public Service Award from the National Science Board "for fostering awareness of science and technology among broad segments of the general public." Also in 2001, the Boston Museum of Science gave her its prestigious Bradford Washburn Award for her "outstanding contribution toward public understanding of science, appreciation of its fascination, and the vital roles it plays in all our lives." Her 2014 Cultural Award from Eduard Rhein Foundation in Germany commends her "for using her profound scientific knowledge and literary talent to combine facts with fiction by merging scientific adventures and human stories in order to give the history of science a human face."

A 1964 graduate of the Bronx High School of Science, Ms. Sobel attended Antioch College and the City College of New York before receiving her bachelor of arts degree from the State University of New York at Binghamton in 1969. She holds honorary doctor of letters degrees from the University of Bath, in England, and Middlebury College, Vermont, both awarded in 2002, and also an honorary doctor of science degree from the University of Bern, Switzerland, 2015.

She based her book *Galileo's Daughter* on 124 surviving letters to Galileo from his eldest child. Ms. Sobel translated the letters from the original Italian and used them to elucidate the great scientist's life work. *Galileo's Daughter* won the 1999 Los Angeles Times Book Prize for science and technology, a 2000 Christopher Award, and was a finalist for the 2000 Pulitzer Prize in biography. The paperback edition enjoyed five consecutive weeks as the #1 New York Times nonfiction bestseller. A two-hour "NOVA" documentary inspired by *Galileo's Daughter*, called "Galileo's Battle for the Heavens," aired on public television in 2002 and won an Emmy in the category of historical programming.

For those interested, more of her biography and background can be found on her website at <http://www.davasobel.com/about-dava-sobel/>.

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Part One: To Florence

Reading and Reflection Questions

Sobel, pp. 3-95

I. When did Virginia become Maria Celeste? Why did she choose this name?

Suggested Answer: Virginia Galilei became Maria Celeste when she took her religious vows as a nun, after being placed in the Convent of San Matteo at thirteen. She might have chosen this name “in a gesture that acknowledged her father’s fascination with the stars” (5).

II. How did Vincenzo Galilei (Galileo's father) influence Galileo Galilei's mathematical pursuits? Why, do you think, is Galileo called "the father of experimental physics"?

Suggested Answer: Vincenzo opposed his son’s becoming a mathematician, knowing from personal experience that the career was poorly paid. He later introduced Galileo to the Pythagorean rule of musical ratios, which was based on numerical properties of notes in a scale. Additionally, Vincenzo prevented Galileo from becoming a monk at the Benedictine monastery at Vallambrosa (which certainly would have affected his future pursuits had he been allowed to do so). Galileo was the father of experimental physics because of his habit of testing his hypotheses with physical evidence and recording those tests; surprisingly, he was one of the first to do so with such dedication and determination, making him the "father" of that science and making his experiments famous even in the modern world.

III. Did Galileo invent "the spyglass, or eyeglass"? What was his first 'planetary' discovery with the new telescope (or rather, his first four planetary discoveries)?

Suggested Answer: Galileo did not invent the spyglass, although he did refine the Dutch curiosity into an instrument later renamed the “telescope.” With the use of the piece, he sketched the face of the Moon, distinguished the characteristics of planets from those of stars, and made his first major planetary discovery—four “planets” (moons) in orbit around the planet Jupiter.

IV. How was Galileo received in Rome when he traveled there to publicize his discoveries? In which three significant ways did *Bodies in Water* upset academic tradition (47)?

Suggested Answer: The trip, condoned by Grand Duke Cosimo, was given a warm welcome, "received and feted by many illustrious cardinals, prelates, and princes of [the] city" (40). Some time later, his first work, *Bodies in Water*, caused an upset among his fellow philosophers for "challeng[ing] Aristotelian physics on the behavior of submerged or floating objects...defac[ing] the perfect body of the Sun...[and] flout[ing] academic tradition" by writing *Bodies of Water* in Italian (the colloquial tongue) instead of the academic lingua franca, Latin.

V. Explain the heliocentric rationale of Polish cleric Nicholas Copernicus. Which Aristotelian law did the "nova" challenge?

Suggested Answer: Copernicus "rationalized the motions of the heavens" by "imagining the Earth to turn on its own axis once a day, and travel around the Sun once a year" (50). His system also "called the planets to order" and was able to explain the parallax (apparent backward motion) of Mars every couple of years.

The appearance of the "nova" (Latin for "new") challenged the Aristotelian law of immutability in the heavens.

VI. Why did Galileo write *Letter to Grand Duchess Cristina*?

Suggested Answer: The *Letter* actually began as a letter to Galileo's friend Castelli, detailing the attacks against him and refuting the perceived conflict of science and religion that was being furthered by his foes. In time, Galileo drafted the letter again, addressing the work to Madama Cristina this time, who had once heard the complaint against his (supposedly anti-Scriptural) heliocentric leanings and brought it to his attention. In the letter, as in person, he defended heliocentrism with evidence from "Holy Writ."

VII. At which "anxious moment in Church history" was Galileo's *Letters* written? Why was the Copernican system deemed "formally heretical"?

Suggested Answer: The Roman Catholic church was in the midst of a Counter-Reformation movement, begun as a defensive response to the Protestant Reformation of 1517. The rift between Protestantism and Catholicism was ever-widening until the ecumenical Council of Trent (1545-1563), which formally rejected Luther's insistence on the right to a personal reading of the Bible. Galileo and his opponents both accused each other of "bending the Bible to their purposes," which was an action directly contrary to the Catholic "profession of faith" that had been drawn up by the Council (pp. 71-72). Thus, when the Copernican doctrine of a Sun-centered world system was judged to have directly contradicted Holy Scripture, the system was deemed "formally heretical," "foolish and absurd," "erroneous in faith" (78).

VIII. Why did Galileo "resist the temptation to go outdoors in the autumn of 1618 long enough to view any one of the three comets"? What do you think about the spirit and intensity of Galileo's defensive writings in the rest of the chapter?

Suggested Answer: According to Sobel, "the November night air held terrible danger for [Galileo], a man well past fifty now, who had spent most of the current year battling one malady after another... Moreover... he would not have seen much even if he had risked his own study of these objects." Even with the most powerful telescopes of the day, comets were fuzzy, indistinct masses in space that were said to belong "to Earth's atmosphere" (which decreased their value to Galileo's work) (88-89).

Galileo's writing style during this period of his life was energetic, enthusiastic, and aggressive. He feared no man, which is evident in his denunciation of Aristotelian and Platonic philosophy for defining the physical world system. His spirit of intense discussion and debate is to be envied, although his aggressively defensive, pointed style was set to anger plenty of important people with more power than he could handle.

[Works Written/Published During This Time](#)

The Starry Messenger (1610)

Discourse on Bodies That Stay Atop Water or Move Within It (1612)

Sunspot Letters (1613)

Letter to Grand Duchess Cristina (written 1615, unpublished until 1636)

"Treatise [or Discourse] on the Tides" (written 1616, unpublished)

Discourse on the Comets (1619)

The Assayer (completed in 1622, unpublished until 1623)

Terms

amanuensis a literary or artistic assistant, in particular one who takes dictation or copies manuscripts

discourse a formal discussion of a topic in speech or writing

treatise a written work dealing formally and systematically with a subject

(en.oxforddictionaries.com)

Part Two: On Bellosguardo

Reading and Reflection Questions

Sobel, pp. 99-183

IX. How was the election of a new pope, Pope Urban VIII, significant for Galileo's scientific pursuits? What do you think of Galileo's parable about "the song of the cicada"?

Suggested Answer: The election of a new pope—a powerfully opinionated, purposeful man—signified a good beginning for Galileo. He and the then-cardinal had shared a pleasant correspondence for a decade, in which Barberini had complimented Galileo's scientific mind and pursuits; the then-cardinal had even written Galileo a poetic tribute. With this election, Galileo thought to "secure the pope's blessing for his own most sensitive projects, and at the same time ensure his son's future" (103).

Answers to the second question may vary, of course.

X. How did Galileo respond when asked why he didn't simply hire someone to take over his manual labor (114)?

Suggested Answer: Galileo responded with "No, no; I should lose the pleasure. If I thought it as much fun to have things done as to do them, I'd be glad to."

XI. What was the request of Maria Celeste (127)?

Suggested Answer: "...to let us have for our confessor a Regular or Brother in whom we can confide, with the possibility that he may be replaced every three years, as is the custom at convents, by someone equally dependable..."

XII. What distinction did the Pope (and then-cardinal) draw between absolute and hypothetical truth (138)? Why do you think he found it necessary to make this distinction?

Suggested Answer: The Pope was a man of the church, and he was considered duty-bound to uphold the doctrines and traditions of the Catholic faith—including a healthy respect for the divine and inerrant Scriptures. Until this point, the church had always read the Scriptures literally, never having considered there to be any other possible interpretation, and thus it was slow to trust the introduced possibility of a non-literal reading, even when confronted by the evidence of science and nature 'to the contrary' of a literal interpretation. Everything in the Bible was absolute truth, and the Bible appeared to speak in the language of a geocentric universe. The Pope, in turn, "saw no harm in using the Copernican system as a tool for astronomical calculations and predictions" (138) as long as the heliocentric system remained unproven (and supposedly unprovable), thus incapable of displacing the geocentric system endorsed by scientists, philosophers, and theologians for so long.

As p. 219 notes later in another reflection on the question: "Short of divine revelation, only hypothetical truth would serve."

XIII. Who were the three main characters of Galileo's *Dialogue* and how does Sobel describe each? What had "prolific Italian theologian Saint Thomas Aquinas" done with the writings of Aristotle and early Christian doctrine (152)?

Suggested Answer: The three main characters of *Dialogue*, two of whom were named after men who had been close friends of Galileo, were Salviati ("a thinly disguised alter ego, [who] spoke Galileo's own mind" and embraced the Copernican world system), Sagredo ("an intelligent and receptive man of means" who stood as a sort of mediator figure but "typically took Salviati's side"), and Simplicio ("a pompous Aristotelian philosopher" whose name recalled sixth-century Greek philosopher Simplicius, a "renowned commentator on Aristotle") (pp. 144-145).

Aquinas was—and is—well-known in academic circles for having compellingly "grafted" the 4th Cent. BC writings of Aristotle to 13th Cent. Christian doctrine. By doing so, he was said to have "help[ed] the word of Aristotle gain the authority of holy writ," for better or for worse.

XIV. What do you think about the questions addressed on p. 154 by the *Dialogue* characters? Would you have been able to answer these questions before reading this biography? Can you answer them now?

Suggested Answer: The questions addressed by the characters are: Wouldn't all falling leaves scatter to the west of the trees, if the Earth rotates toward the east at high velocity? Wouldn't a cannon fired to the west carry farther than a salvo to the east? Wouldn't birds lose their bearings in midair? Depending on the makeup of your small group, you may receive different answers to the next few questions. Consider how science is incorporated into elementary and secondary education, and perhaps discuss whether or not that which you and your peers have learned and been taught is satisfactory for approaching questions such as these in real world situations. The last question is also formed as something of a reading comprehension question. How does your small group understand the significance of *Galileo's Daughter* for a Christian approaching the sciences in a modern context, in a scientific world?

XV. Does current science embrace the possibility of an infinite universe? Why or why not?

Suggested Answer: This is certainly a research question. Encourage your group to find answers from the internet and other recently published materials. For example, a simple search might yield articles, Youtube videos, book references, etc. Or you might ask your scientist friends and colleagues. Inspire each group participant to embrace his or her inner Galileo Galilei, and discuss the implications of either conclusion.

XVI. Why does Galileo refuse to endorse Copernicus in the end of the *Dialogue* (177)?

Suggested Answer: Galileo must be careful to stay within the boundaries dictated by Pope Urban. Thus, he doesn't endorse Copernicus because he *may not* endorse Copernicus, at least not without disobeying Urban's command to keep to hypothetical discussions of the world system.

Works Written/Published During This Time

"Reply to Ingoli" (1624)

Dialogue on the Tides (completed 1629, unpublished until 1632 [with a different title])

Part Three: In Rome

Reading and Reflection Questions

Sobel, pp. 187-227

XVII. Which cause does Sobel name for the Thirty Years' War that "pertained to issues of religious faith" (192)? Why did Galileo rush to leave the city of Rome before undertaking the *Dialogue* corrections commanded by Urban VIII?

Suggested Answer: As a cause of the Thirty Years' War, Sobel names "the struggle between the Catholic royal families of France and Spain for control of the Catholic throne of the Holy Roman emperor in Germany." In this War, the deadliest European religious war in history (with eight million casualties), religion determined where one's allegiance fell, whether on the side of Protestantism or that of Catholicism.

https://en.wikipedia.org/wiki/Thirty_Years%27_War

Although it was a risky move to 'make his escape' before the completion of the *Dialogue*, Galileo was quick to leave the city "before the plague or malaria wafted into Rome on the summer heat" (195).

XVIII. Where does the word *quarantine* come from?

Suggested Answer: The word *quarantine* comes from the Italian word *quaranta*, or "forty," selected as the number of days that an infected person must be isolated because it matched the period of time that Christ had "sequestered himself in the wilderness" (202).

XIX. Why did Galileo decide to move to Arcetri?

Suggested Answer: Quite simply, Galileo chose to be closer to his daughters, particularly Maria Celeste, who suffered the "lonely longing" for his company (212).

XX. What were the two demands of the official order which reached the inquisitor at Florence concerning the *Dialogue* (225)?

Suggested Answer: 1) the *Dialogue* could no longer be sold, and 2) the author must appear before the Holy Office of the Inquisition.

Works Written/Published During This Time

Dialogue concerning the two Chief Systems of the World, Ptolemaic and Copernican (1632)

Excerpts of *Two New Sciences* (see pg. 333)

Terms

confrere a fellow member of a profession, a colleague

peroration the concluding part of a speech, typically intended to inspire enthusiasm in the audience

(en.oxforddictionaries.com)

Part Four: In Care of the Tuscan Embassy, Villa Medici, Rome

Reading and Reflection Questions

Sobel, pp. 231-281

XXI. On pg. 232, Sobel writes: "There was only one trial of Galileo, and yet it seems there were a thousand—the suppression of science by religion, the defense of individualism against authority, the clash between revolutionary and establishment, the challenge of radical new discoveries to ancient beliefs, the struggle against intolerance for freedom of thought and freedom of speech." Why do you think this trial was so important, immortalized in the annals of history even to the present day? What did you know about the trial before reading this biography?

Suggested Answer: Discuss the definition and significance of the Galileo affair (and of Galileo in general) with your group. What is usually considered common knowledge regarding the man and his trial? Have you or any of the other participants been challenged or surprised by what you have read so far?

XXII. Did Galileo lie under oath (253)? What do you think?

Suggested Answer: Sobel, at least, rejects this interpretation. She writes, "[Galileo] was a Catholic who had come to believe something Catholics were forbidden to believe. Rather than break with the Church, he had tried to hold—and at the same time not to hold—this problematic hypothesis..." One might argue that Galileo was innocent of such an accusation on account of how deeply he struggled to maintain the duality of understanding and being convinced of the hypothesis, yet formally rejecting it. Such a thing must not have been easy to do, but still he tried. One might also argue that he *did* lie under oath because he was not true to his own reasoning, even in refusing to officially accept the world system, because he must have continued to hold to it within his own mind and heart. Regardless of one's judgment on the man, one cannot fail to comprehend the gravity—and the challenge—of the situation.

XXIII. What did Galileo name as his error? What is your response to his statement?

Suggested Answer: Galileo named as his error "one of vainglorious ambition and of pure ignorance and inadvertence."

XXIV. Why, according to Galileo, did he write the published *Dialogue* (271)?

Suggested Answer: "...not because I held the Copernican doctrine to be true. Instead, deeming only to confer a common benefit, I set forth the physical and astronomical reasons that can be advanced for each side; I tried to show that neither set of arguments has the force of conclusive demonstration in favor of the one opinion or the other, and that therefore to proceed with certainty one had to resort to the decisions of higher teaching..."

XXV. What was the result of the trial? What were the two commands issued by the Pope concerning the *Dialogue* and its author (see also pp. 310-311)?

Suggested Answer: Galileo was "publicly convicted... of heinous crimes" and "vehemently suspected of heresy." The *Dialogue* was prohibited by public edict (placed on the next published Index of Prohibited Books" and Galileo was "expected to perform penance as part of the process of contrition...recit[ing] the seven penitential psalms once a week for three years."

Terms

contrition the state of feeling remorseful and penitent

penitent feeling or showing sorrow and regret for having done wrong; repentant

(en.oxforddictionaries.com)

Part Five: At Siena

Reading and Reflection Questions

Sobel, pp. 285-327

XXVI. What does Sobel have to say about reducing the case to one of science versus religion? What do you think: Did the Church condemn Galileo?

Suggested Answer: Answers may vary. Sobel, however, denounces the simplistic framing of Galileo's trial as science versus religion, or of the Church opposing a scientific theory on biblical grounds.

XXVII. Why had Aristotle ruled out any mathematical approach to physics (301)? Why did Galileo disagree?

Suggested Answer: Aristotle believed that mathematicians "pondered immaterial concepts, while Nature consisted entirely of matter. And Nature...could not be expected to follow precise numerical rules." In other words, mathematics dealt with the abstract, while physics (Nature) dealt with physical things. Galileo, however, argued that a mathematical scientist *also* deals with the physical, recognizing in the "concrete" the effects he has proved in the "abstract" when calculating the influence of "material hindrances" (in other words, Galileo believed in the practicality of applied mathematics).

XXVIII. How does the style of *Two New Sciences* differ from that of Galileo's earlier *Dialogue* (at least according to Sobel)?

Suggested Answer: It appears that the three characters have "lost their verve. Salviati is not as persuasive, Sagredo not as passionate, Simplicio not nearly as stubbornly opposed to novelty" (307). The dialogue is polite rather than sarcastic, literary devices are infrequent, and the casual reader is more easily lost in the textbook-like sections of Day Three and Day Four.

XXIX. Why is Galileo considered the "father of modern physics" or the "father of modern science" (326)?

Suggested Answer: Because Galileo recognized—and emphasized—that "Propositions arrived at purely by logical means are completely empty as regards reality" (Albert Einstein). In other words, science begins and ends with *experience*, with *practicality*, and science derived entirely from logic but without practical application or power is hardly realistic science.

Works Written During This Time

Two New Sciences [*Discourses and Mathematical Demonstrations Concerning Two New Sciences*] (unpublished until 1638)

Part Six: From Arcetri

Reading and Reflection Questions

Sobel, pp. 331-368

XXX. What is remarkable about how Galileo arrived at the fundamental relationship between distance and time (334)? What set Galileo "apart from most philosophers of his time" (337)?

Suggested Answer: It is remarkable that Galileo was able to do so "without so much as a reliable unit of measure or an accurate clock." In addition to his dedication to experimentation, Galileo is set apart from the philosophers of his time for his "emphasis on the practical application and value of science, so far removed from the metaphysical consideration of causes." In his research, he focused on concrete concepts and absolutes—time, distance, acceleration.

XXXI. What tragic event interrupted Galileo's work on *Two New Sciences*, after which "For months he sought his only solace in reading religious poems and dialogues" (345)?

Suggested Answer: Maria Celeste took sick (succumbing to some kind of contaminant in the food or water supply), contracted dysentery, and died after six days of illness.

XXXII. Where was *Two New Sciences* finally published? What other loss did Galileo suffer in 1638 (354)?

Suggested Answer: Although Galileo received various offers from various international friends to license and release his new work, *Two New Sciences* was eventually published in Leiden, Holland, by Dutch publisher Louis Elzevir. Unfortunately, by the time Galileo received a copy in June of 1638, he had lost sight in both eyes due to a combination of cataracts and glaucoma.

XXXIII. What surprising find was made when Galileo's monument was finally completed and his grave relocated in 1703?

Suggested Answer: What were probably the remains of Maria Celeste were found in a coffin beneath Galileo's own, in a virtually unmarked grave that had contained his remains since his death in 1642.

Works Written/Published During This Time

Discourses and Mathematical Demonstrations Concerning Two New Sciences (1638)

Final Thoughts

1. How did you see Galileo faithfully and unfaithfully carrying out his God-given role (calling) in the biography?

Suggested Answer: Galileo fulfilled the command to increase and multiply, but he also committed adultery. Otherwise, Galileo was a devout Catholic throughout his life. He attempted to uncover Natural truths by studying outer space and other sciences. He fulfilled his 'calling' to be a scientist. Throughout his life, he used the mind God had given him to invent useful things and develop theories.

2. How did the conflict between science and the Roman Catholic Church impact the relations between science and religion? How did Galileo affect the scientific community of his time and afterwards?

Suggested Answer: Since the Roman Catholic Church disagreed with the modern science of the time, there is a notion that science and religion can never and will never be related. Now, most people see science and religion almost as opposites. Science is "about individualism" and religion is "about authority"... The church is about the establishment while science is about revolutionary ideas... The basis of religion is "ancient beliefs" but science is founded on discoveries... Not all of these contrasts are accurate through and through, but they display the stereotypes. These views are only furthered by misinformation about Galileo, his trial, and what the clergy of his time stood for and against.

Many scientists of Galileo's time feared the church, and strongly disagreed with Galileo's revolutionary ideas. The scientists who didn't "fear the church" found Galileo most convincing (especially in *Dialogue*). Galileo had many admirers in the scientific community, such as Vincenzo, a young mathematic prodigy introduced near the end of the novel. The scientific community, then, had a mixed response towards Galileo and his discoveries. He had amazing theories that explained so many unknowns, including inventing a compass and the pendulum clock, refining the telescope, explaining sunspots, and more; yet some of the points he made were nonsensical (for example, a heavy and a light object falling at the same speed). In all his work, he strove towards the scientific goal of uncovering truth—the way "things really were"—and he succeeded, for the most part.

3. What was Galileo's impact on the church? Do you think it was his intention to have such an impact?

Suggested Answer: Galileo shook the church. His experiments and theories about a heliocentric universe were contrary to everything the church believed on this matter. And his evidence was convincing, too. From the perspective of many important clergymen and authorities in the church world, he had to be silenced. If he continued presenting such convincing evidence that was so depraved as to "contradict Scripture" (or so they believed), he would draw people away from God and into condemnation. Although it is true that Galileo didn't want to damage anyone's faith in God (rather, he wanted to correct a false assumption the church had held for so long), the religious authorities of his time would take no chances and would brook no discussion.

4. What issues do you see today that call on the church for a response? What should the church's response be? Why?

Suggested Answer: There are numerous issues that call on the church for a response. For example, abortion, legalized euthanasia, homosexuality and gender dysphoria, war and terrorism, and the search for compatibility between science and religion. Discuss how you have responded and continue to respond to such issues in your own life. What are you doing now? What could you be doing today, or tomorrow?

5. What do you see as the role of religion in our lives? What do you see as the role of science in our lives? What do you think the relationship between religion and science ought to be?

Suggested Answer: One might believe that religion should be that off of which we base our lives: in other words, we should design a lifestyle on living out our beliefs. Religion should guide what we say, what we do, how we make decisions, how we act, how we think etc. Our lives should be based on our religion in every aspect. However, such a statement is much easier said than done. Since no fallen human can live a perfect life, we ought to do the best we possibly can to live. Truly, the Catholic Church of Galileo's day was trying very hard to have their science religiously accurate, but the root of the Galileo affair stemmed from a skewed vision of what was "biblically accurate" science.

One might then say that we should study science to learn more about God and to become better stewards to His creation. Learning about our surroundings will help us become more conscious of our surroundings. As we study earth science, we learn how to care for the earth. By studying biology, we learn how to care for humans and the creatures God has set on earth. By studying astronomy, of course, we don't necessarily learn how to care for stars, but the science is valuable for another reason. You can tell some things about an artist by studying their artwork. By studying aspects of God's "artwork," we learn about Him. Science can be a significant part of life, as long as it doesn't become religion.

Regardless of how you and your small group participants answer this question, let your answers emphasize that science and religion are far from incompatible, if each is understood correctly. Religion can be the basis, the motive, for how and why one studies science. One can look at creation, knowing who made it, and be amazed at the complexity, the majesty, of this Creator God. Science can strengthen religion. By no means does science have to become a substitute for God. Indeed, faith can be strengthened by science and faith can be a basis for science.

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