



HOLY SPIRIT

PREPARATORY SCHOOL

Physics

Summer Assignments

Academic Year - 2023-2024

Course Information

Department: Mathematics and Natural Sciences

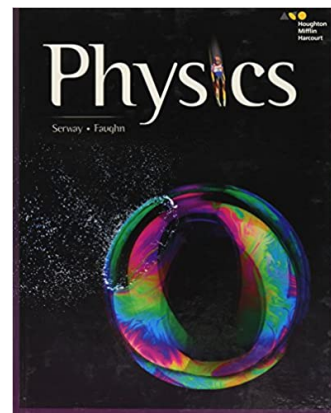
Class Description: Physics is the study of how things move in space and time and its principles are used in fields that range from engineering to medicine. By studying the fundamental interactions in the natural world, students will more clearly see the reflection of God's glory in the design of the physical universe. The class explores the fundamental laws of mechanics, electricity, and optics, through measurement, experimentation, critical thinking, and problem solving.

Textbook or Materials Required (Picture of book included):

Houghton Mifflin Harcourt, *Physics* ISBN 13: 9780544817739

(OPTIONAL; buy if you'd like a reference throughout the year, but not required for class)

Contact afoutch@holyspiritprep.org for any questions



Summer Assignment

Learning objectives:

- Explain the purpose of learning about the physical sciences as it pertains to an integrated life of faith

Estimate time of completion:

- 0.5-1 hour

Details of Assignment:

- Read and annotate the article below. Be prepared to discuss on the first day of school (Wednesday, August 9th).

Fides et Ratio (Faith and Reason)

JOHN E. FAGAN

The Teachings of Pope John Paul II: Summaries of Papal Documents by John E. Fagan succinctly summarizes the Pope's major documents with an emphasis on issues of interest to the laity. It is perfect as an introduction or as a quick reference guide to John Paul II's voluminous writings.

"Faith and reason are like two wings on which the human spirit rises to the contemplation of truth; and God has placed in the human heart the desire to know the truth — in a word, to know himself — so that by knowing and loving God, men and women can come to the fullness of the truth about themselves" (n.

1). With these words Pope John Paul II begins the encyclical, *Fides et Ratio*. Some 12 years in the making, it is the first encyclical on the relationship between faith and reason since Pope Leo XIII issued *Aeterni Patris* in 1879.

Shortly after the encyclical was published, John Paul provided his own summary of some of its key elements in an address to a group of U.S. bishops who were visiting Rome. He said that he "wished to defend the capacity of human reason to know the truth. This confidence in reason is an integral part of the Catholic intellectual tradition, but it needs reaffirming today in the face of widespread and doctrinaire doubt about our ability to answer the fundamental questions: Who am I? Where have I come from and where am I going? Why is there evil? What is there after this life?" (*Ad Limina Address* of October 24, 1998, n. 5).

A lack of confidence in one's ability to know the truth has serious consequences for man's behavior in daily life. Without objective truth, man is left adrift (n. 5). Given human weakness and the strength of man's passions, this inevitably leads to tragedy. As the Pope said to the U.S. bishops, "The violent history of this century is due in no small part to the closure of reason to the existence of ultimate and objective truth. The result has been a pervasive skepticism and relativism, which have not led to a more 'mature' humanity but to much despair and irrationality" (*Address*, n. 5).

Truth is known through a *combination* of faith and reason. The absence of either one will diminish man's ability to know himself, the world and God (n.

16). Human reason seeks the truth, but the ultimate truth about the meaning of life cannot be found by reason alone (n. 42).

The Pope first explains the proper roles of faith and reason on man's path to truth. He then explains how they compliment and support one another with complete compatibility.

Faith

The Church received the ultimate truth about human life as a gift of love from God the Father in the revelation of Jesus Christ. "God so loved the world that he sent his only Son..." (Jn. 3: 16). Christ is the Way, the Truth and the Life (Jn. 14: 6). The true meaning of life, therefore, is a person: Jesus Christ. The truth communicated by Christ is the absolutely valid source of the meaning of human life (n. 12). The ultimate answers to man's questions about pain, suffering of the innocent, and death are found in Christ's Passion, Death and Resurrection (n. 12).

All human creatures, not just philosophers, have the right to receive the truth about their existence and destiny (n. 38). By the revelation of Jesus Christ, God has made the truth accessible to every man and woman. Jesus Christ is not only the revelation of God to man, he is also the revelation of man to himself. In the mystery of the Incarnate Word, man can understand himself. Christ "reveals man to himself and makes clear his supreme calling, which is to share in the divine mystery of the life of the Trinity" (n. 13). Man shares in this mystery on earth through grace and in heaven by direct contemplation of God.

Faith is man's obedient response to God's revelation (n. 13). By faith man accepts the truth of Christ's revelation which is guaranteed by God. Because an act of faith involves freely entrusting oneself to God and freely assenting to His revelation, it has a moral dimension. Preceded by the gift of grace and assisted by the Holy Spirit, it is an act of both the mind and the will. "Men and women can accomplish no more important act in their lives than the act of faith; it is here that freedom reaches the certainty of truth and chooses to live in that truth" (n. 13).

Reason

Man can know that God exists by reflecting on creation. As we read in the Book of Wisdom, "From the greatness and beauty of created things comes a corresponding perception of their Creator" (Wis. 13: 5, cf., Rom. 1: 20, n. 19). "If human beings fail to recognize God as the creator of all, it is not because they lack the means to, but because their free will and their sinfulness place an impediment in the way" (n. 19).

Reason lays the foundation for faith and makes revelation "credible." Reason is thus the common ground between believers and unbelievers.

Man's intellectual capacity, his ability to reason and to think in abstract terms, is a great gift. Man can acquire true knowledge about himself, God and the world. Man is born with a desire to know the truth about himself. It is essential that he find the truth because only by choosing true values by which to live can he be true to his nature and find happiness (n. 25). No one can avoid the need to address life's ultimate questions (n. 27). In fact man can be defined as "the one who seeks the truth" (n. 28).

Man must depend to a great extent on others as source of knowledge. He is unable to factually verify even a small part of his knowledge himself. Therefore, he must trust in the veracity of those who teach him. "This means that the human being – the one who seeks the truth – is also the one who lives by belief" (n. 31).

Belief involves interpersonal relationships because it brings into play not only the capacity to *know* but also the capacity to *entrust* oneself to others. "Knowledge through belief, grounded as it is on trust between persons, is linked to the truth: in the act of believing men and women entrust themselves to the truth which the other declares to them" (n. 32). Martyrs are particularly trustworthy witnesses to the truth about human existence.

The search for the truth about the meaning of life can reach its end only in reaching the absolute because the finite world does not provide a satisfactory answer. Man must not only exercise his reason, he must also trust other persons in the search for ultimate truth. He experiences not only an innate need for the *truth* but also an innate need for a *person* to whom he might entrust himself on the journey to find it (n. 33).

At this point the Christian faith comes to meet him, offering the concrete possibility of reaching the goal he seeks. It enables him to encounter the mystery of Christ (n. 33). Jesus Christ is both the Truth that he is seeking and the Person to whom he can confidently entrust himself to find it. The unity of truth, natural and revealed, is embodied in a living and personal way in Christ. What human reason seeks so ardently can be found only in Christ (n. 34). With the gift of grace and man's personal assent to God's revelation, the human wisdom known by belief is transformed by theological faith. Thus, in knowing and loving God through faith, man comes to the ultimate truth about himself (n. 1).

The Interaction between Faith and Reason

The Holy Father next explains the proper interaction between faith and reason and between philosophy and theology. Philosophy is the study of ultimate truth under the natural light of reason. Theology is the study of the Catholic faith with revelation as its first principles. The purpose of theology is to permit a greater understanding of the faith so that it can be grasped more firmly (n. 93).

Reason supports faith and philosophy supports theology in the following ways:

1. Reason prepares the way to faith. St. Justin and the apologists used philosophy as a "preamble" to the faith (n. 38). Philosophical logic shows how the Catholic faith is not contrary to reason, and it can demonstrate the errors of arguments against the faith. Thus, St. Clement of Alexandria called philosophy a "stepping stone to the faith" (n. 38).
2. Reason can show that there is a God and can demonstrate his primary attributes such as his power and divinity. Reason lays the foundation for faith and makes revelation "credible." Reason is thus the common ground between believers and unbelievers.
3. Faith without reason withers into myth or superstition. Deprived of reason, faith is left with only feelings and experience. It loses its universality (n. 48).
4. Philosophy provides a language for theology. Its concepts and patterns of thought permit theology to have a logical structure and to be a true science (n. 65). For example, while the Real Presence in the Holy Eucharist is to be believed as a matter of faith, theology attempts to make it more understandable in terms of substance, accidents, transubstantiation, etc. Philosophical language permits theology to speak about God, the personal relations within the Trinity, God's creative activity in the world, the relationship between man and God, and Christ's identity as true God and true man, to take a few examples (n. 66).

John Paul also explains how faith supports reason and how theology supports philosophy:

1. Human reason is inherently weak and inclined to error. Deprived of revelation, reason can go off course and miss its destination (n. 48). Faith warns reason against the paths that will lead it astray (n. 73). It shines light

on the true paths (n. 79).

2. Faith stirs reason to explore paths that it would not otherwise have suspected it could take (n. 56). It proposes truths that might never have been discovered by unaided reason. For example, the notions of free will and a personal God who is the Creator of the world have been crucial for the development of a philosophy of being. The Christian proclamation of human dignity, equality and freedom is reflected in modern philosophical thought (n. 76).
3. Faith gives the philosopher the courage to tackle difficult questions such as the problem of evil and suffering, the personal nature of God and the metaphysical question "Why is there something rather than nothing?" (n. 76). His faith gives him the conviction that his reason will find solutions, much as a trustworthy map gives one looking for buried treasure the confidence to keep digging.
4. Faith and spiritual life protect the philosopher from intellectual pride that would impede his ability to search for the truth. Faith, strengthened by love, facilitates the intellectual grasp of the truth about man and his real needs (n. 76).

With the rise of rationalism, faith and reason became separated with disastrous consequences. The end result is the nihilism that we are now experiencing. Nihilism contains no hope of meaning and admits of no objective truth (n. 46). It recognizes only the utilitarian ends of power and pleasure (n. 47).

The Holy Father thus confirms the harmony between the knowledge of faith and the knowledge of reason. "Faith asks that its object be understood with the help of reason; and at the summit of its searching, reason acknowledges that it cannot do without what faith presents" (n. 42). As St. Thomas Aquinas argued, because the light of reason and the light of faith both come from God, there can be no contradiction between them (n. 43).

With the rise of rationalism, faith and reason became separated with disastrous consequences. The end result is the nihilism that we are now experiencing. Nihilism contains no hope of meaning and admits of no objective truth (n. 46). It recognizes only the utilitarian ends of power and pleasure (n. 47). Men and women are treated as objects to be manipulated rather than as persons to be honored. Nihilism is reflected in contemporary culture, for example,

in art, music, literature and entertainment. As the result of increasing nihilism, a culture of death is replacing a culture of life. If this continues, the Pope told the U.S. bishops, the next millennium will bring "a new era a barbarism rather than a springtime of hope" (*Address*, n. 3).

John Paul concludes the encyclical by providing challenges for philosophers and theologians. He states that philosophy needs to regain its sapiential dimension, that is, it must renew its search for wisdom and the ultimate meaning of life. Philosophy must transcend empirical data and consider spiritual realities such as truth, beauty, and universal moral values (n. 83). Theology must serve the proclamation of the Gospel in language that can be understood by modern man.

The Holy Father ends by expressing his hope that Mary, Seat of Wisdom, may assist all who devote their lives to the search for wisdom. "May their journey into wisdom, sure and final goal of all true knowledge, be freed of every hindrance by the intercession of the one who, in giving birth to the Truth and treasuring it in her heart, has shared it forever with all the world" (n. 108.)