

Do you know the truth about **deoxyribonucleic acid (DNA)**? It is a nucleic acid that **contains the genetic instructions specifying the biological development of all cellular forms of life**. It is responsible for the genetic formation of most inherited traits. And it has been around forever!

Yet finding out **the truth about DNA took centuries of thinking, questioning, and researching and depended upon many earlier discoveries**. In fact, the existence of DNA was not even discovered until the mid-nineteenth century. And it was only in the twentieth century that researchers began suggesting that DNA might store genetic information. Here are some of the discoveries that led to our present understanding of DNA:

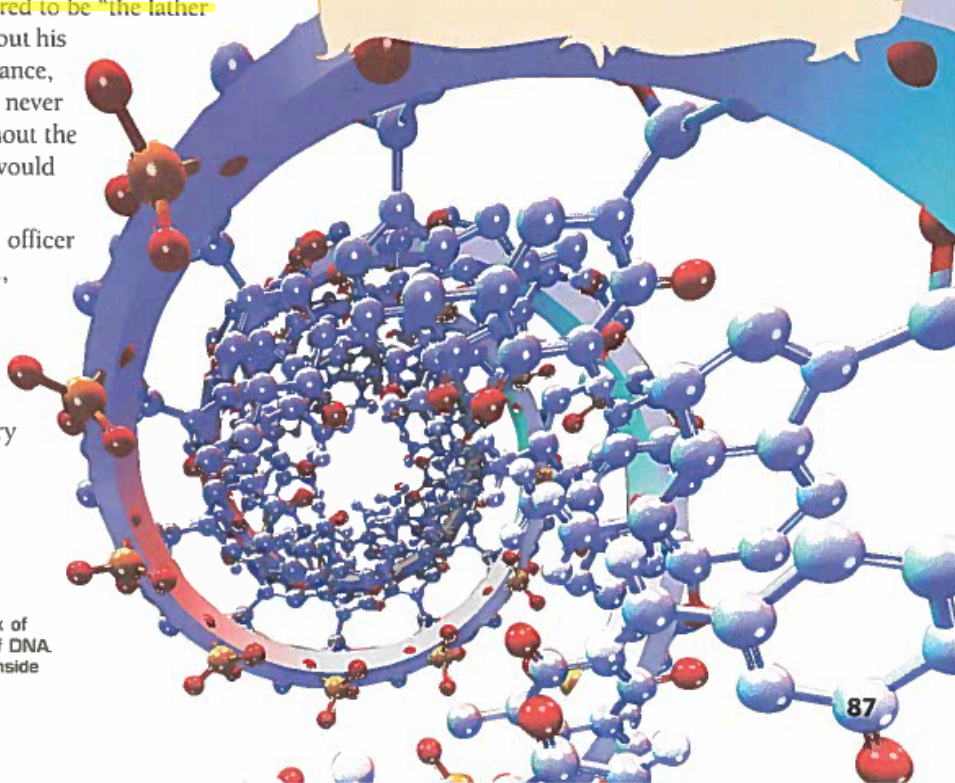
- In 1665 a scientist named Robert Hooke made an observation that eventually led to the establishment of the cell theory, which states that all organisms are composed of similar units.
- In the 1830s Robert Brown observed a small and dark-staining sphere inside plant cells and called this structure a nucleus. This was a key step in the development of the basic cell theory.
- Around 1865 **Gregor Mendel, who was a monk**, did an experiment that explained the patterns of inheritance. He **is considered to be "the father of genetics"** because, without his information about inheritance, the idea of heredity would never have developed, and, without the idea of heredity, nobody would know about DNA.
- In 1928 an Army medical officer named Frederick Griffith, trying to find a vaccine, made a breakthrough in the world of heredity. And his experiment taught us about hereditary transformation.

- Oswald Avery and his colleagues expanded the investigation that Griffith started. And, in 1944, they reported that DNA, not protein, was the hereditary substance.
- Erwin Chargaff, a biochemist, first figured out the equation for the different bases in DNA.
- In 1951 James Watson and Francis Crick began to examine DNA's structure. In 1953, using **X-ray photos of DNA fibers taken by Maurice Wilkins and Rosalind Franklin, Watson and Crick discovered that DNA has an X shape and came up with the "double helix" structure that is associated with DNA**. They produced the first three-dimensional model of the structure of DNA that is still in use today.

Activity Think about all the steps that led to what we know about DNA today. Do you think we'll learn more in the future? Why?

"The right to search for the truth implies also a duty; one must not conceal any part of what one has recognized to be the truth," said physicist Albert Einstein (1879–1955).

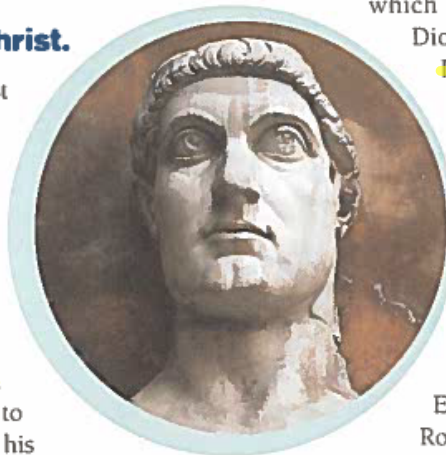
Computer artwork of the double helix of DNA viewed from the inside



BELIEVING...

An empire turns to Christ.

Jesus had commissioned the first disciples to “go, therefore, and make disciples of all nations” (Matthew 28:19). But in following Jesus’ call, the earliest Christians endured many persecutions. **Two of the worst persecutions occurred under the Roman emperors Decius, who ruled from 249 to 251, and Diocletian, who ruled from 284 to 305.** Decius tried to consolidate his power by having the people worship him as a god. But the Christians of the empire refused, and their persecution soon followed. **The Emperor Diocletian also wanted to be worshiped as a god.** In the year 303 he issued **edicts, or orders,** that led to what we now call **the “Great Persecution”**



Emperor Constantine (306–337)

which continued until 311 under Diocletian’s successor Galerius.

During this persecution thousands of Christians were martyred for their faith. Church property was confiscated, and Christian books were burned. Yet, in spite of the persecutions, the Christian faith continued to spread to every corner of the empire and beyond.

Then, from 312 to 337, the Emperor Constantine ruled the Roman Empire. He became emperor after winning a great battle, the battle of the Milvian Bridge. Fortunately for

Christians, Constantine attributed this victory to his soldiers’ display of the cross on their shields and banners. Thus, though he did not officially become a Christian until the end of his life, the Emperor **Constantine** favored Christianity from early in his reign. In 313 **he issued the Edict of Milan, granting religious tolerance throughout the Roman Empire and giving Christians the freedom to worship openly.** He also returned much of the Church property that **had been seized during the Great Persecution.**

Encouraged by his Christian mother, Helena, Constantine made Rome a Christian city. He built a great basilica over the tomb of Saint Peter and gave many government buildings to the Christians to be used as places of worship. He declared every Sunday a government holiday and made official holidays of both Easter and Christmas. He also worked to restore the holy places in Jerusalem and banned many forms of pagan worship, or the worship of false gods.

Eventually, one of Constantine’s successors, the Emperor Theodosius I (379–395), **made Christianity the official religion of the Roman Empire.** Amazingly, Christianity was no longer a suspect and persecuted faith. And the early Christians experienced again that the Holy Spirit is at work in the world.

Activity Highlight or underline the contributions that Constantine made to Christianity.



Saint Augustine

Saint Augustine was among the great teachers of the early Church whom we now honor with the title “Church

Fathers.” Born in A.D. 354, he was a skilled writer and preacher who went on to **become the bishop of Hippo, a city in North Africa.** His father was a pagan, or one who worshiped false gods. Yet his mother, celebrated today as **Saint Monica, was a devout Christian who never stopped praying for Augustine’s conversion to Christianity.** And her prayers were answered; Augustine became a faithful Christian. But not only that, he became a great Christian scholar, a theologian. In **his spiritual autobiography, The Confessions, he gives us the account of his own conversion, or turning to Jesus Christ with all his heart, mind, soul, and body.**

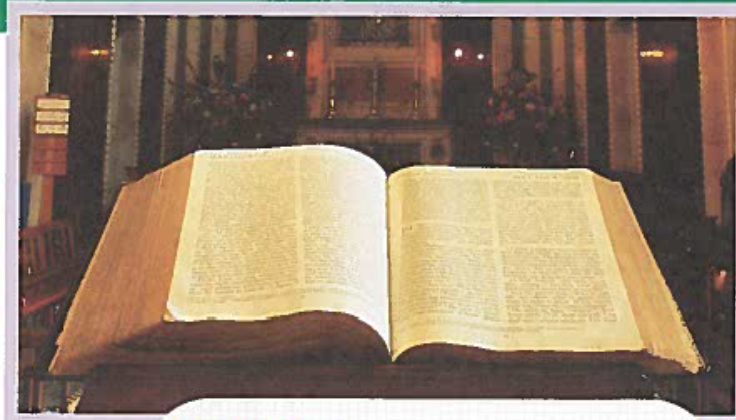
Augustine’s writings express a deep faith and love of Jesus Christ combined with a talent for logical thinking. Exploring the mystery of God, he wrote, “If you understood him, it would not be God”—and many other powerful words that continue to build up the faith of the Church today. Research to discover some of these powerful words of Saint Augustine.

The Church relies on the word of God.

One of the tasks facing the early Church was to decide which sacred writings should be considered part of the Christian Bible. In the second century a scholar named Marcion tried to convince the Church to exclude the Old Testament. The Church condemned Marcion's ideas and accepted the Old Testament as part of the Christian Bible. And because the early Christians used the Greek translation of the Hebrew Bible, they accepted the forty-six Old Testament books that are still part of our Catholic Bibles today. These books recall God's relationship with the people of Israel, from creation through the formation of the covenant, to the laws and beliefs of the Israelites, to the history of Israel and God's role in everyday life, to the writings of the prophets who spoke God's word to his people.

The entire Bible is a collection of books concerned with God's covenant: the agreement that God made with the people of Israel (the old covenant) and the agreement brought to fulfillment in Jesus (the new covenant). Testament is another word for "covenant." As part of their work, the early Christians had to determine which writings should be included in the New Testament, the part of the Bible that recalls the story of Jesus, his mission, his first followers, and the beginnings of the Church. The work was slow and complex. But gradually, under the guidance of the Holy Spirit, the Church developed its New Testament of twenty-seven books. And, in approximately 367, in a letter written by Saint Athanasius (about 296–373), the Bishop of Alexandria, Egypt, we find what seems to be the first written list of New Testament books. Thus, these early Christians compiled for the Church the official list, or canon, of Sacred Scripture. And even today our Catholic Bible consists of those seventy-three books, divided into two parts called testaments.

“The early Christians experienced . . . that the Holy Spirit is at work in the world.”



Activity The names of thirty books of the Bible are hidden in the text below. Work with a partner to find them. (For a list of the books of the Bible, see page 310.)

This is a most remarkable puzzle. It was found by a gentleman in an airplane seat pocket, on a flight from Los Angeles to Honolulu, keeping him occupied for hours. He enjoyed it so much, he passed it on to some friends. One friend from Illinois worked on this while fishing from his john boat. Another friend studied it while playing his banjo. Elaine Taylor, a columnist friend, was so intrigued by it she mentioned it in her weekly newspaper column. Another friend judges the job of solving this puzzle so involving, she brews a cup of tea to help her nerves. There will be some names that are really easy to spot. That's a fact. Some people, however, will soon find themselves in a jam, especially since the book names are not necessarily capitalized. Truthfully, from answers we get, we are forced to admit it usually takes a minister or a scholar to see some of them at the worst. Research has shown that something in our genes is responsible for the difficulty we have in seeing the books in this paragraph. During a recent fundraising event, which featured this puzzle, the Alpha Delta Phi lemonade booth set a new record. The local paper, the *Chronicle*, surveyed more than two hundred patrons who reported that this puzzle was one of the most difficult they had ever seen. As Daniel Humana humbly puts it, "The books are all right here in plain view hidden from sight." Those able to find all of them will hear great lamentations from those who have to be shown. One revelation that may help is that books like Timothy and Samuel may occur without their numbers. Also, keep in mind that punctuation and spaces in the middle are normal. A chipper attitude will help you compete really well against those who claim to know the answers. Remember, there is no need for a mad exodus; there really are thirty books of the Bible lurking somewhere in this paragraph waiting to be found.

BELIEVING...

The Church defends the truth.

What contributes to your understanding of your faith?

It was also during these first centuries of Christianity that many notable scholars and writers contributed to the understanding of the Christian faith. Because of the importance of their work to the life and growth of the Church, we honor these men today as the Fathers of the Church. Among these men were:

- **Origen** (about 185–254), who studied and explained Scripture
- **Tertullian** (about 155–222), who developed a vocabulary of terms with which to describe the faith
- **Saint John Chrysostom** (about 347–407), a great preacher whose name, *Chrysostom*, means “golden-mouthed”
- **Saint Jerome** (about 347–420), who translated the Bible into Latin from Hebrew and Greek.

In the early centuries of the Church, many heresies emerged to challenge the Christian faith. A **heresy is a belief or collection of beliefs that rejects one or more of the revealed truths of the faith.** But the Church’s long struggle against these false beliefs also played a positive role in the development of the faith.

Some of the most important works of the Fathers of the Church were written to defend the truths of the faith against heretics.

The following are some of the groups whose beliefs were heretical.

Gnostics—They claimed that God’s real revelation was available only as secret knowledge to a select few. The Church knew, however, that Jesus welcomed everyone, telling his disciples to bring his Gospel to all nations.

Docetists—They claimed that Jesus only pretended to be human and so didn’t really suffer on the cross. The Church teaches, however, that Jesus was fully human and fully divine. His sufferings were real.

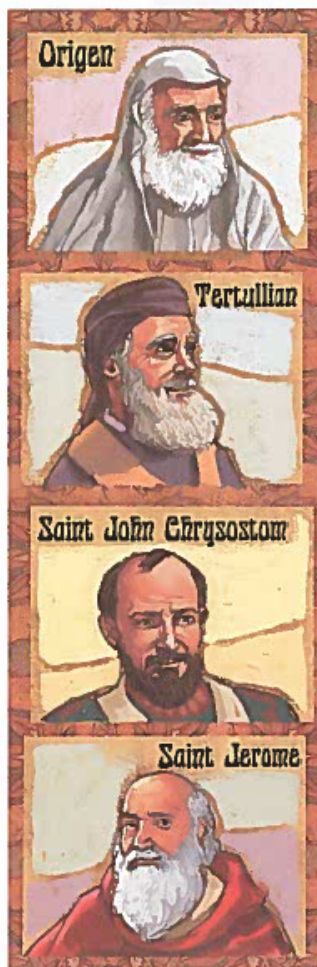
Manichees—They claimed that the material world is evil and that it was created by an evil spirit. The Church knew and taught that all of creation is good because it was made by God, who is all-good.

Marcionites—They were the followers of Marcion, who rejected the Old Testament. The Church, however, recognized that the Old Testament is truly the revealed word of God.

Donatists—They claimed that only “saints” can belong to the Church. But the Church knew that her mission was to welcome both saints and sinners—everyday people, such as ourselves, who strive for holiness of life.

Arians—They claimed that Jesus was less than divine.

Monophysites—They claimed that Jesus was only divine and thus not fully human.



To combat these last two heresies, the Church knew that it had to make clear to the faithful that Jesus was both fully human and fully divine.

The Church’s need to combat heresy also gave rise to the first ecumenical councils. **The word ecumenical comes from the Greek and means “of the whole world.”** These councils of the Church, both ancient and modern, stand out as expressions of the guidance of the Holy Spirit. An ecumenical council brings together the bishops of the

whole world with the bishop of Rome, the pope—the successor of Peter—to guide the Church in matters of faith and life in Jesus Christ. Thus, ecumenical councils are examples of the teaching power that the Apostles possessed and passed on to their successors throughout the ages. Because of this, the teachings of these councils are reliable guides to authentic Catholic faith.

Activity Choose one of the heretical groups discussed on this page, and prepare and present a message defending the truth against this group’s heresy.

The Church is strengthened by her councils.

At the beginning of the fourth century, a priest from Alexandria named Arius was preaching that Jesus was a little more than human but not fully divine. Arius's teachings soon became popular throughout the Roman Empire, and his followers became known as Arians. The argument over Jesus' divinity and humanity became so intense that it began to threaten the peace of the empire. In 325, to settle the dispute caused by this Arian heresy, the Emperor Constantine summoned all the bishops of the Church to a council in the city of Nicaea, in modern-day Turkey. More than two hundred bishops were present at this council, which was the first ecumenical council. The argument against the Arian heresy was put forward by a young deacon named Athanasius. He explained that Jesus had to be fully human to represent humanity before God and also had to be fully God to have the power to save us. This argument was accepted by the assembled bishops. The Arian heresy was condemned. The council then set down a creed—a statement of Christian belief—to express clearly the full divinity and full humanity of Jesus.

“The Church . . . perpetuates and hands on to all generations all that she herself is, all that she believes.”

(Dogmatic Constitution on Divine Revelation, 8)

But the controversy continued. In 381 this prompted the Emperor Theodosius I to call a council at Constantinople—modern-day Istanbul. There the bishops repeated the teaching of Nicaea and reiterated the truth that the Holy Spirit, like Jesus, is also fully divine. Our salvation is the work of one God, but that God exists in three divine Persons—the

Father, the Son, and the Holy Spirit. This truth of the Blessed Trinity is “the central mystery of Christian faith and life” (CCC, 234). Thus, the creed that was written at

Nicaea was added to at Constantinople. It is the same Nicene Creed that we proclaim today at Mass. In this creed we proclaim our faith, first in God the Father, then in God the Son, and then in God the Holy Spirit. Yet all that we proclaim flows from this creed's first line, “I believe in one God.”

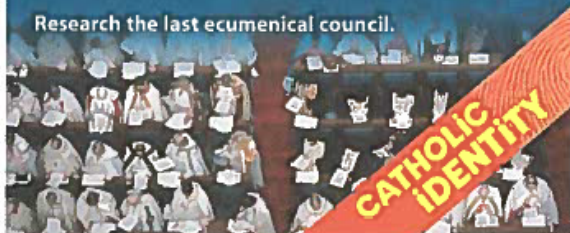
As the years went on, new controversies arose and new councils were called to deal with them. Nestorius, a bishop of Constantinople, claimed that Jesus was really two different persons, one human and one divine, and that people should not speak of Mary as the Mother of God, but only as the mother of the human Jesus. The Council at Ephesus, in modern Turkey, was called in 431 to deal with this heresy. The council condemned Nestorius, affirmed that Mary gave birth to Jesus Christ, the Son of God, and declared that Mary truly can be called “Mother of God.” The council at Chalcedon in 451 is considered the greatest of the first four ecumenical councils. There the bishops affirmed the teaching of Pope Leo the Great that Jesus was one person with two natures—divine and human—and that the two natures did not interfere with or compromise each other.

Through the ecumenical councils the life of the Church continued in truth, for “the Church, in her teaching, life, and worship, perpetuates and hands on to all generations all that she herself is, all that she believes” (Dogmatic Constitution on Divine Revelation, 8).

Ecumenical councils

Twenty-one ecumenical councils have been held in the history of the Church. They call together the pope and bishops of the whole world. At the first ecumenical council, the Council of Nicaea, more than two hundred bishops were present. If an ecumenical council were held today, there would be more than 4,500 bishops gathered! At each council they live out their role as teachers, guiding the faithful of the Church and helping to express and clarify the Church's doctrines and faith in every age.

Research the last ecumenical council.



Activity What are some ways that the Church today communicates the truth to your generation?

RESPONDING...

Recognizing Our Faith

Recall the question at the beginning of this chapter: *Who or what leads me to the truth?* What surprised you the most in learning about the early Christians' constant striving for the truth? How has their example enriched your answer to this question? enriched your faith?

Living Our Faith

Decide on ways to live and share the truths of your faith this week.

Saint Ambrose

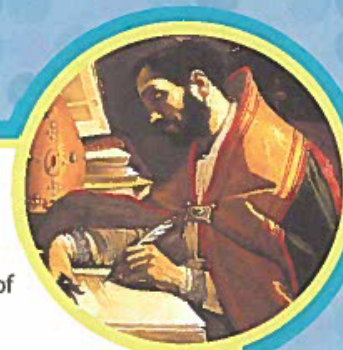
Ambrose was a lawyer and also the governor of a Roman province that included the city of Milan. When the bishop of Milan died in 374, a group of heretics who did not believe in the divinity of Christ wanted a new bishop who shared their beliefs. When representatives of the true Church and the

heretics met in the basilica of Milan to elect a new bishop, the election soon threatened to become a riot. As governor, Ambrose went to the basilica to try to restore order. His faith, wisdom, and courage impressed many people. He was elected as the new bishop. Ambrose was stunned and at first protested that he

was not a priest; in fact, he was not even baptized! But he was urged to accept the election. Ambrose agreed, was baptized, and was later ordained a priest and eventually a bishop.

As bishop of Milan, Ambrose defended the truth of Christ's divinity against the Arian heresy. His homilies were eloquent and persuasive. Among the people he converted and baptized was Saint Augustine of Hippo, who went on to become a great saint. Ambrose died in 397. The Church has named him a saint and celebrates his feast day on December 7.

Who are the teachers of truths of the faith in your life?



Partners in FAITH

@* For additional ideas and activities, visit www.weliveourfaith.com.

Putting Faith to Work

Talk about what you have learned in this chapter:



We consider the people and events through which the Holy Spirit worked to define the faith of the Church.



We understand the various ways in which the truths of our faith have been handed down to us.

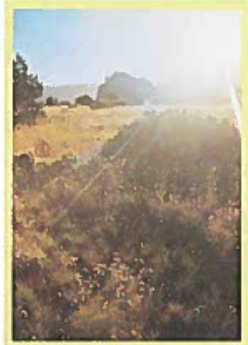


We proclaim—especially by our actions—the truths of faith we hold as Christians.

Decide on ways to live out what you have learned.



ENCOUNTERING GOD'S WORD



Jesus said:

“I am the way and the truth and the life”

(John 14:6).



READ the quotation from Scripture.



REFLECT on these questions:

How does following Jesus lead you to truth? How does following Jesus lead you to a fuller life?



SHARE your reflections with a partner.



DECIDE to do something each day to witness to Jesus—the way, the truth, and the life for you.

Choose four people discussed in this chapter and write brief descriptions to explain their contributions to the Church.

1. Constantine issued the Edict of Milan, granting religious tolerance throughout the Roman Empire and giving Christians the freedom to worship openly.
2. St. Augustine wrote of his conversion in *The Confessions* and became a bishop in North Africa.
3. St. John Chrysostom was a great preacher. His name means "golden-mouthed".
4. St. Jerome translated the Bible into Latin from Hebrew and Greek.

Short Answers.

Heresy is a belief or a collection of beliefs that rejects one or more of the revealed truths of the faith.

5. What is a heresy?

A creed is a statement of Christian belief.

6. What is a creed?

7. Which ecumenical council had the task of writing a creed to express the full divinity and full humanity of Jesus? the Council of Nicaea

8. The Fathers of the Church were great scholars and writers who contributed to the understanding of the Christian faith. Name two Church Fathers and what they contributed to the Catholic faith.
See #2,3,4 above and p.90 in the textbook.

9–10. **ESSAY:** Use what you learned in this chapter to explain this statement: *The early Christians experienced the Holy Spirit at work in the world.*