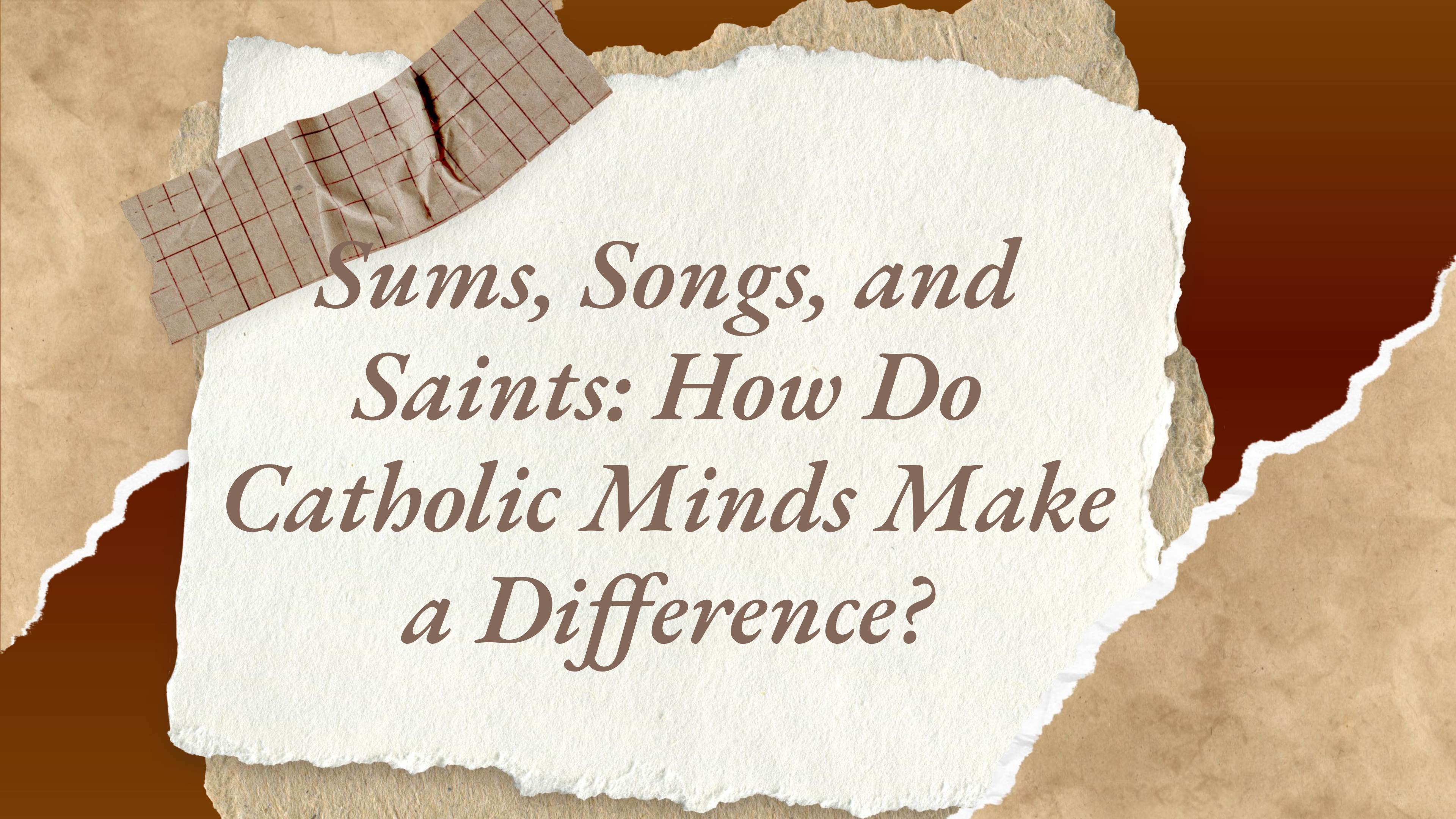
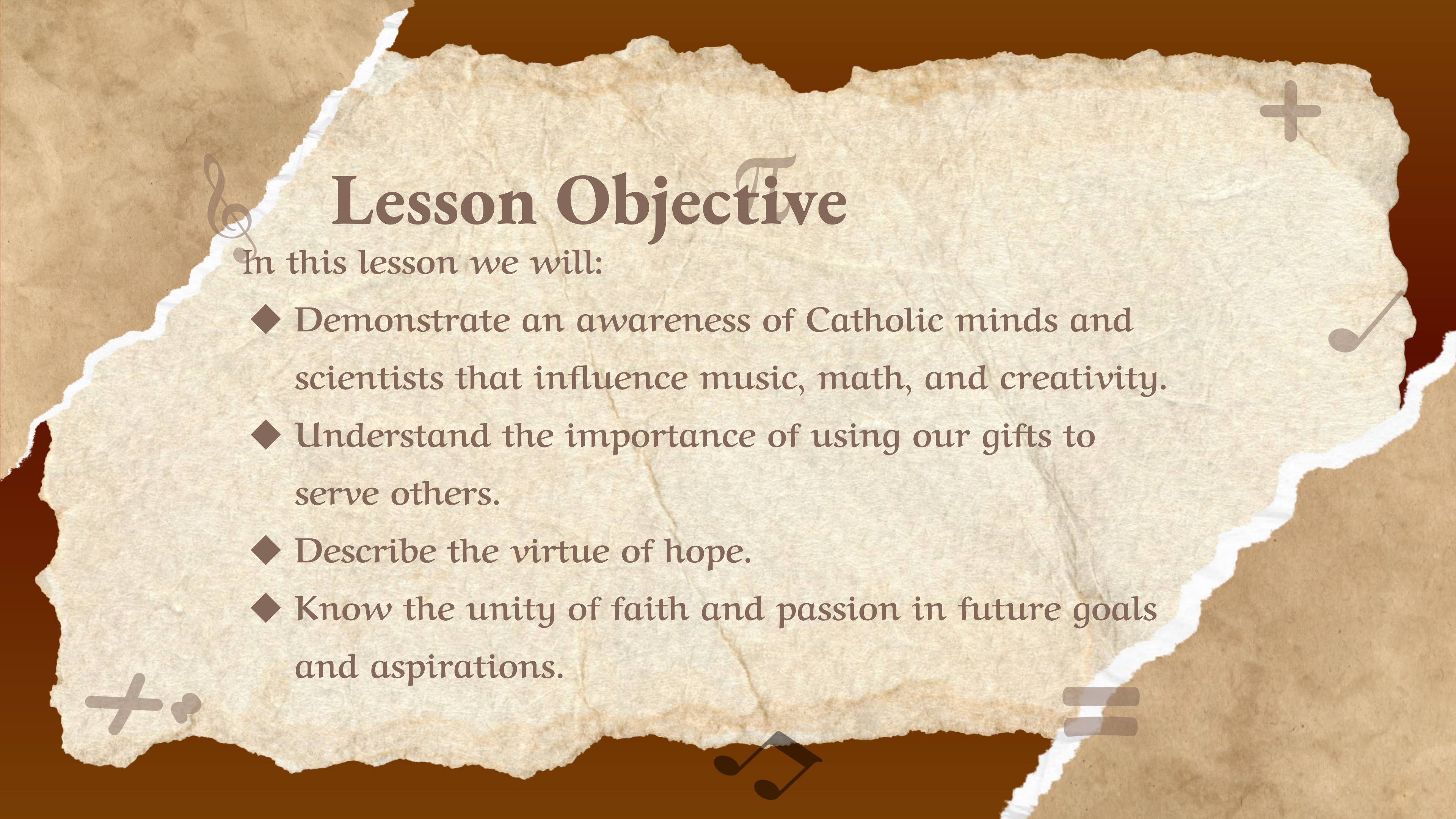




*Sums, Songs, and
Saints: How Do
Catholic Minds Make
a Difference?*



Lesson Objective

In this lesson we will:

- ◆ Demonstrate an awareness of Catholic minds and scientists that influence music, math, and creativity.
- ◆ Understand the importance of using our gifts to serve others.
- ◆ Describe the virtue of hope.
- ◆ Know the unity of faith and passion in future goals and aspirations.

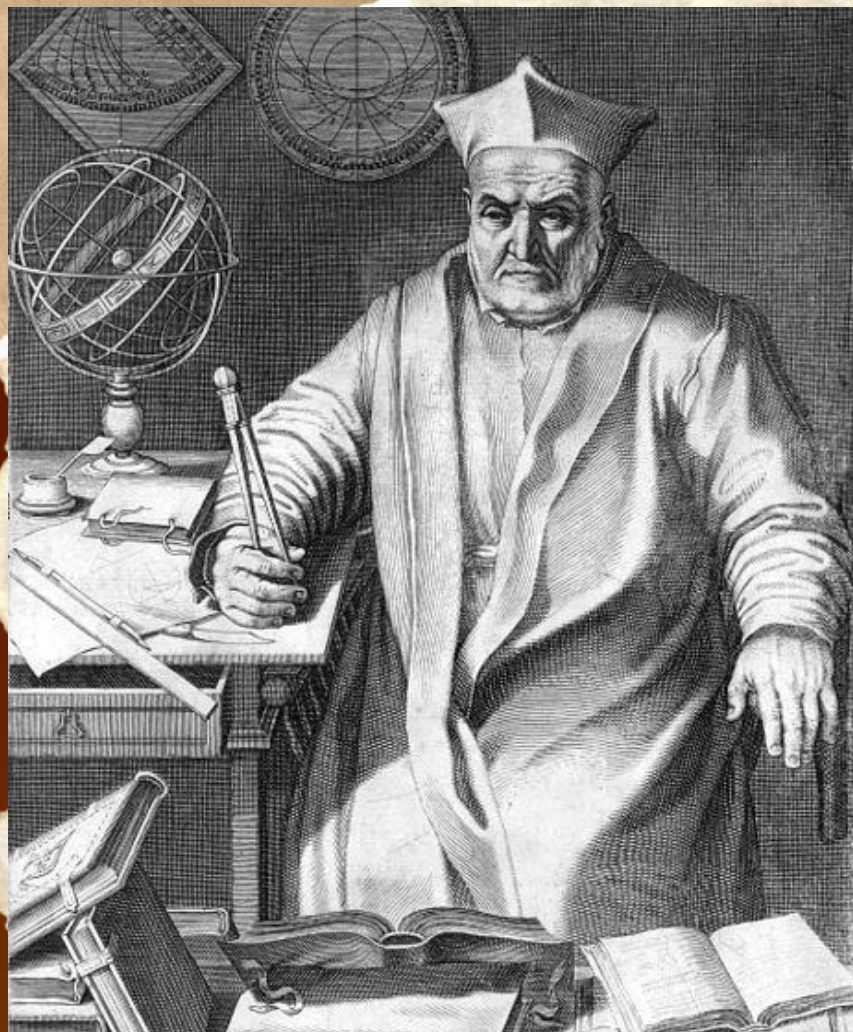
Ice Breaker

Before we officially start the lesson, let's take some time to answer some questions.

- ◆ Have you ever written or created a song based on something you've read/listened to?
- ◆ What is one invention you believe would change the world?
- ◆ What is one thing you wished people wouldn't overlook about you?

+ Father Christopher Clavius

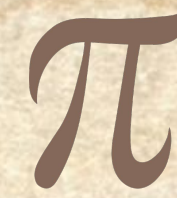
π



Christopher Clavius was a mathematician who played a key role in developing the Gregorian calendar we still use today. For over 1,500 years—from 46 BC to 1582 AD—the world relied on the Julian calendar to track the passage of time. However, the Julian calendar had a significant flaw: it did not accurately align with the astronomical year, which affected important dates, including religious observances like Easter. Father Clavius, along with his team, corrected this issue by refining the calendar system to better reflect the solar cycle. Their efforts led to the adoption of the Gregorian calendar in 1582—a reform that remains the global standard to this day.



“Doing
Math
should be
an exercise
of faith”



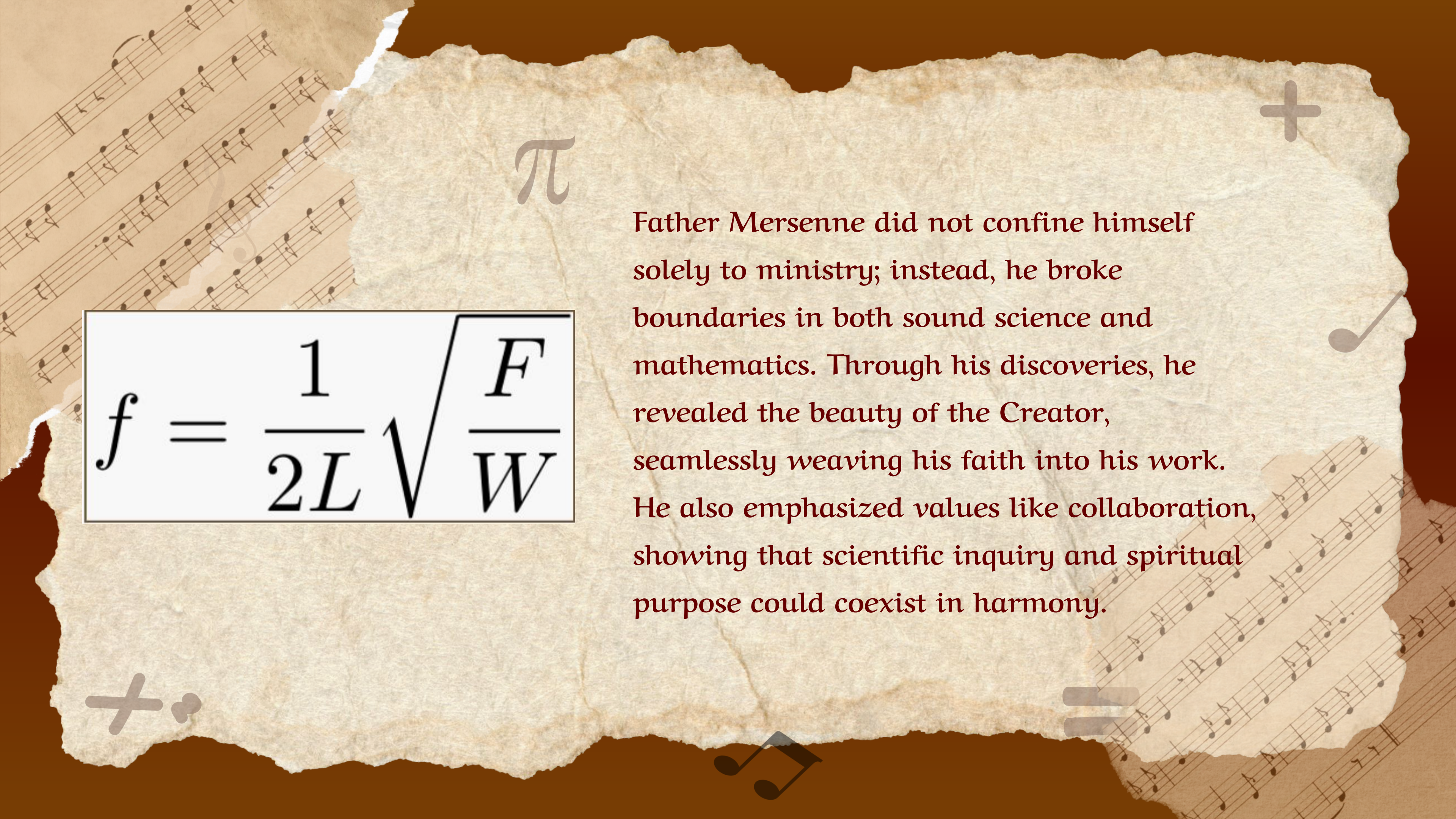
Father Clavius was not only a brilliant mathematician but also a devout Jesuit priest, deeply committed to his faith. He viewed his scientific work as a way to draw closer to God, believing that mathematics and the natural world were reflections of divine order. Through studying the precise patterns of the universe, he sought to better understand the beauty and complexity of creation, and in doing so, he deepened his relationship with the Creator. By bridging faith and reason, Clavius showed that science and spirituality could work hand in hand to reveal deeper truths about both the world and the God who made it.



Father Marin Mersenne



Father Marin Mersenne was a Catholic priest who made significant contributions to the science of sound and music. He improved the design and construction of string instruments and discovered the mathematical relationship between a string's frequency and its length, mass, and tension. Mersenne's sharp mind attracted visits from renowned thinkers like Pierre Gassendi, René Descartes, and Blaise Pascal. Valuing collaboration, he formed a network of about 140 scientists, including Galileo, which later inspired the Royal Society in London. Known as one of the architects of the European scientific community, Mersenne left a legacy as a pioneering music theorist and the namesake of Mersenne prime numbers.

The background is a dark brown surface with a collage of musical notes and mathematical symbols. A large, torn piece of light brown paper is centered, containing the text and a formula. The paper has irregular, deckled edges. In the top right corner of the paper is a large grey plus sign. In the top left corner of the paper is a large grey pi symbol. In the bottom left corner of the paper is a large grey plus sign. In the bottom right corner of the paper is a large grey equals sign. The musical notes are in a light brown color and are scattered across the background, some overlapping the torn paper.

π

$$f = \frac{1}{2L} \sqrt{\frac{F}{W}}$$

Father Mersenne did not confine himself solely to ministry; instead, he broke boundaries in both sound science and mathematics. Through his discoveries, he revealed the beauty of the Creator, seamlessly weaving his faith into his work. He also emphasized values like collaboration, showing that scientific inquiry and spiritual purpose could coexist in harmony.

Maria Agnesi



Maria made calculus more accessible by writing a textbook that gained international acclaim, earning her recognition among the world's intellectual elite. She was also a passionate advocate for girls' education, dedicating much of her life to teaching young girls and caring for the elderly. Later, she became the director of the women's section of a nursing home, living and working alongside the nuns who ran it. Despite coming from a wealthy background, Maria chose to give away all her possessions to the poor. When people questioned her decision to embrace poverty, she offered this response in her own words:

“Man always acts to achieve goals. The soul of the christians is the glory of God...I hope my studies have brought glory to God and that they were useful to others...because that was my Father’s will”

Maria set her heart on one central goal: to bring glory to God in all she did. She demonstrated that it is entirely possible to love God deeply and still walk boldly in His will, using the talents He entrusted to her. Though she came from a life of wealth, she reminded us that true accomplishment isn't measured by material success, but by the fruits of the Spirit evident in one's life and a steadfast commitment to pleasing God.

Louis Braille

Louis Braille is best known for creating a reading and writing system for the blind that is still used around the world today. Although he wasn't born blind, he lost his sight after a childhood accident involving one of his father's leather tools. Determined to give him a normal life despite this setback, Louis' parents supported his education. He was first taught by a priest named Father Pally, who introduced him to both academics and the teachings of God. Father Pally later helped him gain admission to the Royal Institute for Blind Youth in Paris, where Braille would eventually develop his revolutionary tactile system. During his time at the institute, Louis' father missed him dearly and created a way to write letters using thin strips of leather arranged into shapes. While Louis used these to write back, the method was slow and difficult to read, prompting him to seek a better solution.



Louis Braille was not only an inventor but also a compassionate teacher devoted to educating blind children. Known for his generosity, he often used his own money to help students, even “loaning” funds for supplies—loans he never expected to be repaid. After his death, a sealed box with the names of students who owed him was found, with instructions to burn it—proving every loan had been a quiet gift. What Catholic teaching can we take from this? It’s a beautiful example of charity, humility, and love for neighbor—living out Christ’s call to give without expecting anything in return.

“God was pleased to hold before my eyes the dazzling splendors of eternal hope. After that, doesn't it seem that nothing more could keep me bound to earth?”

Adrien Atiman



Adrian Altman, born in what is now Mali, was rescued from slavery in 1876 by Catholic priests who gave him a new chance at life. A bright and eager learner, Adrian embraced both education and the Christian faith. He went on to study medicine, becoming a respected doctor and devoted catechist who healed both body and soul. Known for his humility and dedication, his legacy spread far and wide.

“Above all, I am a catechist.”

Amidst the challenges of his early life, Adrian found solace in Christ and discovered his true purpose by walking faithfully with God. He didn't allow the pain of his past to define him—instead, he chose forgiveness and moved forward into a life of healing, pursuing his passion for medicine and surgery while remaining deeply devoted to his faith. In every success, Adrian gave glory to God, fully aware that his achievements were not by his own strength. Despite his growing fame, he remained humble and grounded. He is especially remembered for his unwavering commitment to his faith, often saying, “Above all, I am a catechist.”

Sister Mary Kenneth Keller



Sister Mary Kenneth Keller was a pioneering nun who helped shape modern computing. After earning degrees in math and physics, she joined Dartmouth's National Science Foundation program—becoming the first woman allowed at the all-male school. There, she helped develop the BASIC programming language, making computers more accessible. She later became the first U.S. woman to earn a Ph.D. in computer science and went on to found the computer science department at Clarke College.



Sister Keller believed that technology should serve humanity. Her work was fueled not just by intellect, but by compassion and conviction—a desire to ensure that computers could empower people, not replace them. Her deep faith drove her to break barriers and create systems that reflected dignity, inclusion, and service, embodying the belief that knowledge and faith together can transform lives.

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Quiz

- Summarize two stories of Catholic musicians, mathematicians, and/or inventors you have seen in this lesson
- Explain how faith-inspired work continues to impact the world today, particularly through serving others.
- How can we use our own talents and passions—like music, math, or creativity—to serve others and make a positive difference?