

Speak THE Faith

A PUBLIC SPEAKING
COURSE ON FAITH,
SCIENCE, AND REASON



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APOLOGETICS

Speak THE Faith

A PUBLIC SPEAKING COURSE ON
FAITH, SCIENCE, AND REASON

STUDENT WORKBOOK

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CHAPTER 12

Is the Shroud of Turin a Forgery?

Essential Questions

- What is the Shroud of Turin?
- What has the scientific testing of the shroud concluded about its date of origin?
- What is the Facecloth of Oviedo and what does it tell us about the Shroud of Turin?
- How does the evidence support the Gospel accounts of Jesus' Crucifixion and Resurrection?

Biblical Touchstones

And he bought a linen shroud, and taking him down, wrapped him in the linen shroud, and laid him in a tomb which had been hewn out of the rock; and he rolled a stone against the door of the tomb.

MARK 15:46

Then Simon Peter came, following him, and went into the tomb; he saw the linen cloths lying, and the napkin, which had been on his head, not lying with the linen cloths but rolled up in a place by itself.

JOHN 20:6-7

Is the Shroud of Turin a Forgery?

The Shroud of Turin bears the striking image of a crucified man. The image is a perfect photographic negative. The details of the image match the description of Jesus' Crucifixion from the Gospels. From the first recorded reports of the shroud in 1349 to today, many have believed that it is Jesus' burial cloth. Others, however, have suggested it is a forgery created in the Middle Ages. Could they be right?

In recent decades, many scientific tests have been performed on the shroud. The anatomical details of the man in the image have been analyzed, revealing how they parallel Christ's own injuries. How the image was made has been investigated and dating analyses of the shroud has placed its origin at the time of Christ. The evidence provided by these studies and others strongly suggests it really is the burial shroud of Christ.

Let us now consider some of this evidence.

Dating the Shroud

In the last almost half century, different scientific methods have been used to date the shroud. Most of these tests have placed its origin to the time of Christ. The results of one set of tests, however, do not match the rest. Carbon-14 testing done in 1988 by three different labs on a single sample of the shroud placed the sample at 638 years old (to roughly 1350). It is this test that is often pointed to by those who believe the shroud is a forgery.

The sample used in these tests, however, was taken from a previously unknown repair to the shroud. This repair consisted of patches of dyed cotton fibers – not linen like the rest of the shroud. These patches were most likely dyed to make the fresh white patches blend in with the much older original shroud. Other repairs were known to scientists, particularly ones from damage from a fire in 1532.

Since the sample used in the 1988 testing was not part of the original material, the carbon-dating only tells us when the shroud was patched (apparently around 1350), but nothing about when it was originally made (which was likely much earlier, as we will see). Further, because carbon-dating measures the amount of carbon left in a sample based on a known rate of decline, an event like the 1532 fire can contaminate any sample with added carbon and affect test results. All these factors cast significant doubt on the accuracy of the 1988 Carbon-14 testing.

Newer Scientific Dating Methods

Five newer tests for dating ancient materials have been used on the shroud. These all show a strong likelihood that the shroud originated from the time of Jesus and that the 1988 Carbon-14 testing was in error. The results of the most recent test were published in 2022. It used a highly accurate wide-angle x-ray scattering on a sample of the shroud. The test placed its origin between AD 55–

AD 74. This range is very close to the time of Jesus' Crucifixion and Resurrection.

The results of three other tests were reported in 2005. These tests analyzed the rate of decay of organic compounds in the cloth compared to other linens both ancient and modern.

A mechanical test of compressibility and breaking strength was also conducted in 2005. This test compared the physical properties of the fibers of ancient fabrics, such as how much tensile strength individual fibers retain over time.

If we average the results of all these tests, the origin of the shroud might be placed at around 33 BC—very close to the time of Jesus. These newer tests show that it is highly probable the shroud's origin must be in the first century AD with a very low margin of error.

Other Indications of the Shroud's Age

Pollen Grains

Pollen grains have been identified in dust samples from the shroud and compared to pollen grains in botanical museums. Most came from Israel, specifically from sediment deposits from 2,000 years ago near the Sea of Galilee. Thirteen samples are only found in that region. Others came from France (where the shroud surfaced in the Middle Ages) and Italy (where the shroud is now). These pollen samples not only strongly place the shroud in the time and region of Christ, but also make the chances of it being a medieval forgery even less likely.



Secondo Pia's 1898 negative of the image on the Shroud of Turin. Image courtesy Alamy.

Roman Coins on the Eyes of the Man in the Shroud

Numismatists (coin specialists and collectors) have identified partial imprints of coins on the eyes of the man in the shroud. Overlaid photographs suggest these coins were a specific type of coin minted in Judea in AD 29 by Pontius Pilate. It is hard to conceive of a more pinpointed marker of date and time connecting the shroud to Christ.

Similarities to the Facecloth of Oviedo

The Shroud of Turin also bears striking resemblance to another cloth known as the **Facecloth of Oviedo**. The tradition surrounding the Facecloth of Oviedo is that it is the burial cloth mentioned in Scripture that was laid over the face of Christ after His

Death (a typical part of Jewish burial custom). Unlike the Shroud of Turin, there is no facial image on the Oviedo cloth. There are, however, blood stains on it, like those of a person brutally beaten and crucified. Many of the same pollens from ancient Israel found on the shroud have also been identified on the Facecloth of Oviedo. Analysis of the bloodstains on the Oviedo cloth and on the shroud have perfectly matched 120 points. This fact strongly indicates that the face each cloth touched had an identical pattern of injuries and blood flow. The Facecloth of Oviedo has a continuous recorded history traceable to the year 616 compared to the Shroud's documented history from 1349. Therefore, if the two cloths touched the same face, the shroud must be at least as old as the Facecloth of Oviedo – 616 or before.

Drawing a Conclusion

The combined evidence of the pollen samples, the Roman coins, the Facecloth of Oviedo, and the five new dating tests gives strong testimony that the shroud originated in First Century Palestine around the time of Jesus' Crucifixion. The anatomical perfection of the blood stains on the shroud and the unique features of Jesus' Crucifixion not found in any other crucifixion (the crown of thorns, nail wounds in the hands and feet, and the spear wound in the side), combined with the manner in which the image on the shroud was produced make it unlikely that the shroud is a medieval forgery and highly probable that it is in fact the burial cloth of Jesus Christ.

Focus and Reflection Questions

- 1 Why are the findings of the 1988 dating test questionable?
- 2 What newer dating tests have been used on the shroud? What average date do these tests together give for the origin of the shroud?
- 3 What circumstantial evidence about the date of the shroud is provided by the pollen samples found on the shroud?
- 4 What is suggested by the partial imprint of coins on the eyes of the man on the shroud?
- 5 What is the Facecloth of Oviedo? What is the connection between the facecloth and the shroud? Why is this connection significant for dating the Shroud of Turin?
- 6 What in particular stands out to you about the Shroud of Turin? How has what you have learned about the Shroud of Turin and the holy Facecloth of Oviedo changed the way you think about the Death and Resurrection of Our Lord?

Scientific Testing on the Shroud Videos

Directions: Watch the video clips shown by your teacher. Then, answer the questions.

Shroud Carbon Dating Patch Video

- 1 What was found in the middle of the samples used in the 1988 radiocarbon dating tests?

- 2 From tests performed in 1978, of what is the shroud known to be free?

- 3 What was found on the threads of the 1988 test samples?

- 4 How were the threads of the 1988 test samples different from the linen fibers?

- 5 Why might someone have dyed cotton fibers to patch the shroud?

- 6 What conclusion does the researcher in the video draw about the 1988 test samples?

Shroud Blood Video

- 1 What did the scientists discover when they analyzed the parts of the shroud that displayed bleeding wounds?

- 2 According to the video, what would have caused Jesus to bleed when He was Crucified? What would these wounds have produced?

- 3 What is bilirubin? What was discovered about it in relation to the shroud?

- 4 What was revealed by UV photography?

- 5 What conclusion does the research in the video conclude about the bloodstains on the shroud?

Are You Convinced?

Directions: Based on everything you have learned about the Shroud of Turin in this and the previous lessons, respond to the reflection questions.

- 1 Does it surprise you that so many tests seem to support the fact that the Shroud of Turin is the burial cloth of Christ, including multiple modern dating methods that have placed the origins of the shroud exactly to the time of Christ? Why or why not?

- 2 Based on the evidence you have seen in this lesson, in the videos, and in the previous lesson, are you convinced that the Shroud of Turin is the true burial cloth of Jesus? Why or why not?



PUBLIC SPEAKING WORKSHOP

Extemporaneous Speeches

- ★ During these Public Speaking Workshop classes, you will prepare and present an extemporaneous speech on a topic chosen from Units 3–5.

- ✋ **Biblical Touchstones**

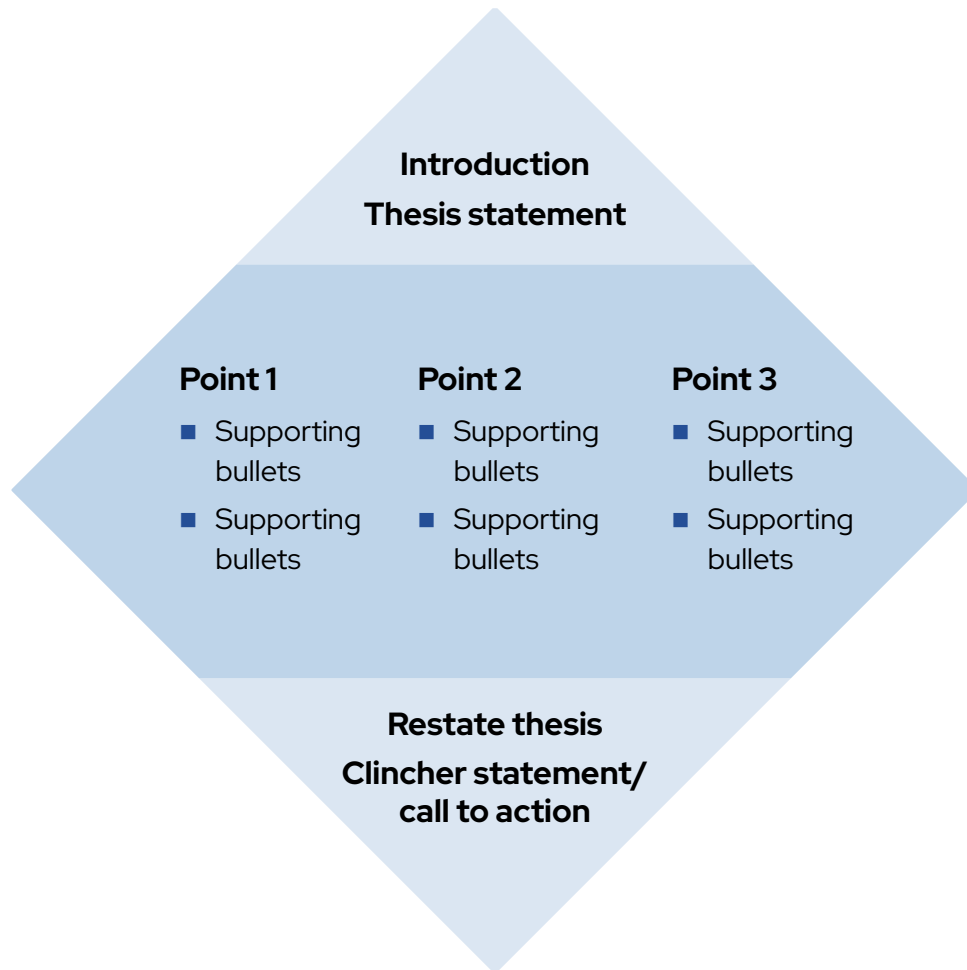
Let no evil talk come out of your mouths, but only such as is good for edifying, as fits the occasion, that it may impart grace to those who hear.

EPHESIANS 4:29

Extemporaneous Speech Template

In speech and debate competitions, students are given 20 minutes to prepare a five-minute persuasive speech on a topic of societal interest. Students may use their preparation time to do research on their topic.

An extemporaneous speech should be organized like the diagram below:



Extemporaneous speeches should generally follow the format of a five-paragraph essay you should be familiar with from English class.

- The **introduction** should begin with an attention-getter, for example – depending on your topic and their audience – you could choose a joke, a famous quote, a story, personal experience, startling information, or a rhetorical question. The introduction should then explain your thesis statement.
- **Supporting paragraphs** should have a topic sentence/main idea with supporting information.

- Ideally, you should include a **transition sentence** between paragraphs.
- After your supporting paragraphs, you should **restate your thesis**.
- Finally, the **conclusion** should **restate your thesis statement** and briefly review the key points you have made in support of it. Then, you should end on a strong, memorable note (known as a clincher statement) or a call to action for the audience.

Using note cards

It is recommended that for extemporaneous speeches, you prepare 5–6 note cards to refer to throughout your speech. These cards should contain bulleted information only, and not full sentences.

You should number your cards and may choose to hole punch the cards in one corner and thread onto a metal ring, or tie with a string.

You can follow the format below to organize your note cards:

- One card with introduction (attention-getter, your thesis statement).
- One card with first piece of evidence and supporting bullets.
- One card with second piece of evidence and supporting bullets.
- One card with third piece of evidence and supporting bullets.
- One card with summary of a contrary view and refutation [*for longer, more advanced speeches*].
- One card with conclusion (restatement of thesis, clincher statement/call to action).



Extemporaneous Speech Outline

Directions: Complete the outline for your extemporaneous speech as completely as possible.

Topic: _____

I. Introduction

Attention-getter: e.g. a joke, a famous quote, a story, personal experience, startling information, or rhetorical question.

Thesis statement:

II. First Point

Main Idea: _____

Supporting idea:

Supporting idea:

III. Second Point

Main Idea: _____

Supporting idea:

Supporting idea:

IV. Third Point

Main Idea: _____

Supporting idea:

Supporting idea:

V. Conclusion

Restatement of thesis statement:

Clincher statement or call to action:

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TEACHER'S GUIDE

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TEACHER'S GUIDE



Is the Shroud of Turin a Forgery?

CHAPTER 12

Learning Goals

In this chapter your students will learn that...

- The Shroud of Turin contains a miraculous image of a crucified man that all evidence suggests is Jesus Christ.
- The shroud has undergone numerous scientific investigations over the years that all support the authenticity of the shroud and its image.
- The Shroud of Turin and the Facecloth of Oviedo share numerous details that likely indicate they both were burial cloths of the same person.
- The empirical evidence presented by the shroud strongly supports the accuracy of the Gospel accounts of Jesus' Crucifixion and Resurrection.



Connections to the Catechism

- CCC 606–630
- CCC 638–640
- CCC 651–655



Key Terms

- Facecloth of Oviedo

Materials

- Video titled "Shroud Carbon Dating Patch" found at SophiaOnline.org/CarbonDating
- Video titled "Shroud Blood" found at SophiaOnline.org/ShroudBlood

BIBLICAL TOUCHSTONES

And he bought a linen shroud, and taking him down, wrapped him in the linen shroud, and laid him in a tomb which had been hewn out of the rock; and he rolled a stone against the door of the tomb.

MARK 15:46

Then Simon Peter came, following him, and went into the tomb; he saw the linen cloths lying, and the napkin, which had been on his head, not lying with the linen cloths but rolled up in a place by itself.

JOHN 20:6–7

Lesson Plan

Homework

Consider assigning the Chapter 12 text for homework and having students answer the focus and reflection questions.

Warm-Up

- A** Begin by explaining to your students that over the centuries, many have believed that the Shroud of Turin is the true burial cloth of Christ. This burial cloth was mentioned in the Gospel accounts of Jesus' burial and would have been wrapped around His body when He was placed in the tomb. Given the striking image of the crucified man on the shroud and the way the wounds of the man in the image match perfectly with those of Christ from His Passion and Death on the Cross, belief in the authenticity of the shroud has long been compelling. But, throughout the years since the shroud's first recorded appearance, there have also been those who believe the shroud is an intricate forgery created in the Middle Ages.
- B** Next, ask your students, if the shroud were actually a forgery, why they think someone might have created a fake relic of Jesus' Passion, Crucifixion, and Death. *Accept reasoned answers, which may include to convince others of the truth of Jesus' divinity, especially of His Resurrection; to make money or become famous (never mind that the identity of any potential forger is not known); or even to intentionally deceive others in a malicious way.*
- C** Then, ask your students how we might go about determining whether the shroud is the true burial cloth of Christ? *Accept reasoned answers. Students should be able to reference the many different kinds of tests that have been performed on the shroud over the centuries, including the anatomical analysis, tests on the blood stains, tests on the cloth of the shroud itself, analysis of the historical record, and so forth. Encourage students to think of other ways or tests that might be performed that might help find an answer.*
- D** Explain to your students that in this lesson they are going to take a closer look at some of the testing that has been performed on the shroud to find an answer to the question of whether it is a forgery or the true burial cloth of Christ.

Activity

- A** Begin by having your students turn to **Scientific Testing on the Shroud Videos** on **pg. 85** of the Student Workbook.
- B** Next, explain to your students that you are going to show them two brief video clips about some of the scientific testing performed on the shroud. The first video is about the 1988 radiocarbon (or Carbon-14) testing performed on the shroud and why these tests were in serious error.
- C** Then, show your students the brief video clip titled “Shroud Carbon Dating Patch” found at [SophiaOnline.org/CarbonDating](https://www.sophiaonline.org/CarbonDating). While viewing the video, have your students respond to the corresponding questions. Allow time after showing the video for students to finish answering the questions. You may need to show the video twice.
- D** Next, explain to your students that the second video is about the bloodstains found on the shroud.
- E** Ask them to recall from the previous lesson on the shroud what they learned about the bloodstains on the shroud. Invite students to share what they remember. *There are several blood stains on the cloth that congealed before the image was made, yet the location and flow of the blood precisely match where they appear on the image of the body. If the shroud were a forgery, its creator would have had to perfectly place all the blood stains on the cloth before there was an image on which to place them. Accept other reasoned answers.*
- F** Then, show your students the brief video clip titled “Shroud Blood” found at [SophiaOnline.org/ShroudBlood](https://www.sophiaonline.org/ShroudBlood). While viewing the video, have your students respond to the corresponding questions. Allow time after showing the video for students to finish answering the questions. You may need to show the video twice.
- G** After viewing the videos and after your students have answered all the questions, review and discuss the correct answers.
- H** Conclude by asking your students, based on the testing discussed in these two video clips, what can be concluded about whether the shroud is a forgery or not? *Accept reasoned answers. The scientific studies addressed in these two videos strongly suggest that the shroud is not a forgery. In fact, the results found in these tests suggest that it would have been nearly impossible for a forger to have created the shroud.*

Wrap-Up

- A** Have your students turn to **Are You Convinced?** on **pg. 87** of the Student Workbook. Have them answer the reflection questions based upon what they have learned from this and the previous lessons on the shroud.
- B** When they have finished, call on students to share and discuss their answers.
- C** Next, split the class into two large groups and have them gather on either side of the classroom. Inform them that they will be participating in a class debate, with each group taking one side in response to the debate prompt. Then choose one of the following prompts and give the groups ten minutes to prepare their arguments for and against, respectively:
- Do you think we will ever be able to conclusively determine the truth of the shroud? Why or why not? Does it matter if we do?
 - Do you think scientists and researchers should continue to use the latest scientific tests on the shroud? Why or why not?
- Accept reasoned answers. The purpose of the first prompt is to get students thinking about the real meaning of the shroud and what it indicates about faith and belief rather than empirical evidence. The second prompt is meant to help students consider the limits of what scientific testing can tell us about such a religious object.*
- D** After ten minutes, have the two sides of the classroom take turns presenting their responses. Act as moderator, asking clarifying questions when necessary, and ultimately determining the winning side based on clarity of speech, presentation of evidence, and persuasiveness of argument.

E Finally, explain to your students that as convincing as the evidence might be that the Shroud of Turin is the burial cloth of Christ mentioned in the Gospels and evidence of both His divinity and of His Resurrection, ultimately, artifacts such as the shroud should always be considered as aids to our faith and not replacements for it, regardless of the amount of scientific testing and the results of those tests. Remember, when the Risen Jesus appeared to the Apostles in the Upper Room, He invited Thomas the Apostle to touch the wounds in His hands and side, evidence that it was indeed Him. Presented with this undeniable evidence – the Risen Christ standing before him with the wounds of His Crucifixion – Thomas had no choice but to exclaim, **“My Lord and my God!” (John 20:28)**. But then Jesus said to Him, **“Have you believed because you have seen me? Blessed are those who have not seen and yet believe” (John 20:29)**. Jesus made it clear that all the evidence in the world is intended only to increase our faith in Him.

Student Text

(page 82 in the Student Workbook)

Is the Shroud of Turin a Forgery?

The Shroud of Turin bears the striking image of a crucified man. The image is a perfect photographic negative. The details of the image match the description of Jesus' Crucifixion from the Gospels. From the first recorded reports of the shroud in 1349 to today, many have believed that it is Jesus' burial cloth. Others, however, have suggested it is a forgery created in the Middle Ages. Could they be right?

In recent decades, many scientific tests have been performed on the shroud. The anatomical details of the man in the image have been analyzed, revealing how they parallel Christ's own injuries. How the image was made has been investigated and dating analyses of the shroud has placed its origin at the time of Christ. The evidence provided by these studies and others strongly suggests it really is the burial shroud of Christ.

Let us now consider some of this evidence.

Dating the Shroud

In the last almost half century, different scientific methods have been used to date the shroud. Most of these tests have placed its origin to the time of Christ. The results of one set of tests, however, do not match the rest. Carbon-14 testing done in 1988 by three different labs on a single sample of the shroud placed the sample at 638 years old (to roughly 1350). It is this test that is often pointed to by those who believe the shroud is a forgery.

The sample used in these tests, however, was taken from a previously unknown repair to the shroud. This repair consisted of patches of dyed cotton fibers – not linen like the rest of the shroud. These patches were most likely dyed to make the fresh white patches blend in with the much older original shroud. Other repairs were known to scientists, particularly ones from damage from a fire in 1532.

Since the sample used in the 1988 testing was not part of the original material, the carbon-dating only tells us when the shroud was patched (apparently around 1350), but nothing about when it was originally made (which was likely much earlier, as we will see). Further, because carbon-dating measures the amount of carbon left in a sample based on a known rate of decline, an event like the 1532 fire can contaminate any sample with added carbon and affect test results. All these factors cast significant doubt on the accuracy of the 1988 Carbon-14 testing.

Newer Scientific Dating Methods

Five newer tests for dating ancient materials have been used on the shroud. These all show a strong likelihood that the shroud originated from the time of Jesus and that the 1988 Carbon-14 testing was in error. The results of the most recent test were published in 2022. It used a highly accurate wide-angle x-ray scattering on a sample of the shroud. The test placed its origin between AD 55–

Student Text

(page 83 in the Student Workbook)

AD 74. This range is very close to the time of Jesus' Crucifixion and Resurrection.

The results of three other tests were reported in 2005. These tests analyzed the rate of decay of organic compounds in the cloth compared to other linens both ancient and modern.

A mechanical test of compressibility and breaking strength was also conducted in 2005. This test compared the physical properties of the fibers of ancient fabrics, such as how much tensile strength individual fibers retain over time.

If we average the results of all these tests, the origin of the shroud might be placed at around 33 BC—very close to the time of Jesus. These newer tests show that it is highly probable the shroud's origin must be in the first century AD with a very low margin of error.

Other Indications of the Shroud's Age

Pollen Grains

Pollen grains have been identified in dust samples from the shroud and compared to pollen grains in botanical museums. Most came from Israel, specifically from sediment deposits from 2,000 years ago near the Sea of Galilee. Thirteen samples are only found in that region. Others came from France (where the shroud surfaced in the Middle Ages) and Italy (where the shroud is now). These pollen samples not only strongly place the shroud in the time and region of Christ, but also make the chances of it being a medieval forgery even less likely.



Secondo Pia's 1898 negative of the image on the Shroud of Turin. Image courtesy Alamy.

Roman Coins on the Eyes of the Man in the Shroud

Numismatists (coin specialists and collectors) have identified partial imprints of coins on the eyes of the man in the shroud. Overlaid photographs suggest these coins were a specific type of coin minted in Judea in AD 29 by Pontius Pilate. It is hard to conceive of a more pinpointed marker of date and time connecting the shroud to Christ.

Similarities to the Facecloth of Oviedo

The Shroud of Turin also bears striking resemblance to another cloth known as the **Facecloth of Oviedo**. The tradition surrounding the Facecloth of Oviedo is that it is the burial cloth mentioned in Scripture that was laid over the face of Christ after His

Student Text

(page 84 in the Student Workbook)

Focus and Reflection Questions Answer Key

- 1 The 1988 test was a Carbon-14 dating test done by three different labs on a single sample. The sample was taken from a previously undiscovered repair patch on the shroud that was cotton dyed to match the original linen. So, the sample gives us the date of the patch, not the shroud. A 1532 fire that damaged the shroud is also significant to remember in terms of carbon dating, as fire contaminates any sample with added carbon, making carbon-dating on the shroud also questionable.

Death (a typical part of Jewish burial custom). Unlike the Shroud of Turin, there is no facial image on the Oviedo cloth. There are, however, blood stains on it, like those of a person brutally beaten and crucified. Many of the same pollens from ancient Israel found on the shroud have also been identified on the Facecloth of Oviedo. Analysis of the bloodstains on the Oviedo cloth and on the shroud have perfectly matched 120 points. This fact strongly indicates that the face each cloth touched had an identical pattern of injuries and blood flow. The Facecloth of Oviedo has a continuous recorded history traceable to the year 616 compared to the Shroud's documented history from 1349. Therefore, if the two cloths touched the same face, the shroud must be at least as old as the Facecloth of Oviedo—616 or before.

Drawing a Conclusion

The combined evidence of the pollen samples, the Roman coins, the Facecloth of Oviedo, and the five new dating tests gives strong testimony that the shroud originated in First Century Palestine around the time of Jesus' Crucifixion. The anatomical perfection of the blood stains on the shroud and the unique features of Jesus' Crucifixion not found in any other crucifixion (the crown of thorns, nail wounds in the hands and feet, and the spear wound in the side), combined with the manner in which the image on the shroud was produced make it unlikely that the shroud is a medieval forgery and highly probable that it is in fact the burial cloth of Jesus Christ.

Focus and Reflection Questions

- 1 Why are the findings of the 1988 dating test questionable?
- 2 What newer dating tests have been used on the shroud? What average date do these tests together give for the origin of the shroud?
- 3 What circumstantial evidence about the date of the shroud is provided by the pollen samples found on the shroud?
- 4 What is suggested by the partial imprint of coins on the eyes of the man on the shroud?
- 5 What is the Facecloth of Oviedo? What is the connection between the facecloth and the shroud? Why is this connection significant for dating the Shroud of Turin?
- 6 What in particular stands out to you about the Shroud of Turin? How has what you have learned about the Shroud of Turin and the holy Facecloth of Oviedo changed the way you think about the Death and Resurrection of Our Lord?

- 2 Reported in 2022, a highly accurate wide-angle x-ray scattering was used on a sample of the shroud, placing its origin between AD 55–AD 74. Three other tests were reported in 2005 that analyzed the rate of decay of organic compounds in the cloth compared to other linens both ancient and modern. These tests revealed a date of origin range for the shroud between 1022 BC–AD 678. A mechanical test of compressibility and breaking strength was also conducted in 2005. This test compared the physical properties of the fibers of ancient fabrics, such as how much tensile strength individual fibers retain over time. By comparing the shroud fibers with other known ancient fabrics, the date of origin range produced by this test was AD 1–AD 800. The average date places the origin of the shroud around 33 BC – very close to the time of Jesus.
- 3 Pollen grains have been found on the shroud from the Middle East, France, and Italy (the shroud was in France during the Middle Ages and is in Italy now). But the overwhelming number of grains are from 2,000-year-old sediment deposits from near the Sea of Galilee.
- 4 The coins placed over the eyes were of a specific coin minted in Judea in AD 29 by Pontius Pilate.
- 5 The tradition surrounding the Facecloth of Oviedo is that it is the burial cloth mentioned in Scripture that was laid over the face of Christ after His Death. While there is no image present on the facecloth, the bloodstains on the facecloth and the shroud match at 120 points. This fact suggests that the face each cloth touched had an identical pattern of injuries and blood flow. The Facecloth of Oviedo is traceable to at least the year 616, establishing that, if the two cloths touched the same face, the shroud is at least that old.
- 6 Accept reasoned answers.

Activity Worksheet

(page 85 in the Student Workbook)

Answer Key

Shroud Carbon Dating Patch Video

- 1 Cotton fibers that did not match the original linen fibers of the shroud.
- 2 Artificial dyes and pigments.
- 3 Artificial dyes and pigments – a gum dye mordant. (A mordant is a substance combined with a dye or stain to fix it in the material being colored.)
- 4 The linen fibers had no dye or pigments, looked slick under a microscope, and the dye used on the cotton fibers had not stuck to the linen fibers.
- 5 To make the cotton repair invisible to the naked eye (i.e. to make the newer cotton fibers match the same color of the linen fibers next to it).
- 6 The samples of the shroud used in the 1988 radiocarbon dating tests were taken from the previously unknown dyed cotton repair patch.

Scientific Testing on the Shroud Videos

Directions: Watch the video clips shown by your teacher. Then, answer the questions.

Shroud Carbon Dating Patch Video

- 1 What was found in the middle of the samples used in the 1988 radiocarbon dating tests?

- 2 From tests performed in 1978, of what is the shroud known to be free?

- 3 What was found on the threads of the 1988 test samples?

- 4 How were the threads of the 1988 test samples different from the linen fibers?

- 5 Why might someone have dyed cotton fibers to patch the shroud?

- 6 What conclusion does the researcher in the video draw about the 1988 test samples?

Activity Worksheet

(page 86 in the Student Workbook)

Shroud Blood Video

- 1 The chemical signature of real blood.
- 2 Jesus was nailed to the Cross. As He bled, red blood cell walls would have ruptured, releasing hemoglobin, the blood component which transfers oxygen around the body.
- 3 Bilirubin is created when hemoglobin breaks down. It is the substance in blood that causes bruises to turn yellow. The bloodstains on the shroud contain high levels of bilirubin, consistent with the trauma of crucifixion.
- 4 Serum stains – the liquid medium in which red blood cells are suspended – were revealed by UV photography.
- 5 No potential medieval artist/forgery could have anticipated the future invention of ultraviolet fluorescence photography and hid serum stains on the shroud for scientists 700 years later to find.

Shroud Blood Video

- 1 What did the scientists discover when they analyzed the parts of the shroud that displayed bleeding wounds?

- 2 According to the video, what would have caused Jesus to bleed when He was Crucified? What would these wounds have produced?

- 3 What is bilirubin? What was discovered about it in relation to the shroud?

- 4 What was revealed by UV photography?

- 5 What conclusion does the research in the video conclude about the bloodstains on the shroud?

Wrap-Up Worksheet

(page 87 in the Student Workbook)

Answer Key

- 1 Accept reasoned answers. This question is meant to help students consider that, while science has its limitations, when it reveals something that is authentically true, there is no conflict with what is true according to Faith.
- 2 Accept reasoned answers.

Are You Convinced?

Directions: Based on everything you have learned about the Shroud of Turin in this and the previous lessons, respond to the reflection questions.

- 1 Does it surprise you that so many tests seem to support the fact that the Shroud of Turin is the burial cloth of Christ, including multiple modern dating methods that have placed the origins of the shroud exactly to the time of Christ? Why or why not?

- 2 Based on the evidence you have seen in this lesson, in the videos, and in the previous lesson, are you convinced that the Shroud of Turin is the true burial cloth of Jesus? Why or why not?

Extemporaneous Speeches

WORKSHOP 2

Workshop Goal

This Public Speaking Workshop will span at least four class periods. Students will present their extemporaneous speeches during this and next week's classes.



Connections to the Catechism

■ CCC 2485

Suggested Timeline:

Day 1: Finalize topic and begin outline and note-cards.

Day 2: Fill out note cards, practice speech (including for homework).

Days 3 and 4: Presentation of Speeches.

Materials

- Five large index cards for each student (plus extras as needed)
- **Extemporaneous Speeches Rubric** from **Appendix B: Public Speaking Rubrics** found on **pg. 257** of this guide
- Optional Enrichment: Video of Ven. Fulton Sheen titled "Life Is Worth Living: Preparing a Talk" found at SophiaOnline.org/SheenSpeeches
- **Teacher Resource: Peer-Review: Extemporaneous Speeches** found on **pg. 135** of this guide

BIBLICAL TOUCHSTONE

Let no evil talk come out of your mouths, but only such as is good for edifying,
as fits the occasion, that it may impart grace to those who hear.

EPHESIANS 4:29

Lesson Plan

DAYS 1 AND 2

Teacher’s Note: Prior to class, make enough copies for each student of the Extemporaneous Speech Rubric from **Appendix B: Public Speaking Rubrics** found on **pg. 257** of this guide.

Teacher’s Note: Prior to class, make copies of **Teacher Resource: Peer-Review: Extemporaneous Speeches**, found on **pg. 135** of this guide, for each student to have enough to take notes on each student presenter in class.

Warm-Up

A Begin by praying this lesson’s Biblical Touchstone:

“Let no evil talk come out of your mouths, but only such as is good for edifying, as fits the occasion, that it may impart grace to those who hear” (Ephesians 4:29).

B Next, explain to your students that during this Public Speaking Workshop on extemporaneous speeches, which will span the next four class periods, they will each be presenting an extemporaneous speech on a topic chosen from the material they have studied in Units 3–5. Review with your students the definition of extemporaneous speeches and a few examples:

- Extemporaneous speeches: You speak with only a little bit of preparation, sometimes (but not always) using note cards to help your delivery.

Examples: A principal talking to parents on back to school night, a parent talking to a class on career day, a political candidate talking to a crowd.

C Tell your students that you will pray their speeches will help all who hear them grow in their faith. They will have class time to work on their speeches during the next two class periods and will present them in the following two class periods. They can choose one of the following topics (or any other you choose to allow), and must answer it using material learned in class, along with any other ideas they wish to add:

- **Topic A:** Why should we believe the universe has a Creator?
- **Topic B:** What evidence supports the belief that Jesus Christ is God?

D Then, have your students turn to **Extemporaneous Speech Template** on **pg. 89** of the Student Workbook. Go over the format of an extemporaneous speech with your students using the information on this worksheet. Allow students to ask any questions they might have.

E Finally, distribute a copy of the **Extemporaneous Speeches Rubric** from **Appendix B: Public Speaking Rubrics**, found on **pg. 257** of this guide, and review it as a class so that students know how they will be graded.

Activity

- A** Have your students work independently to decide which topic they will do, and then decide on three main points supporting their argument that they would like to include in their speech. (They can think of five-paragraph essays from English class as a model.) The supporting points should come from material from Units 3–5.

Examples:

We should believe in a Creator because evidence from the Big Bang shows the universe must have a beginning, evidence from entropy shows it must have a beginning, and Thomas Aquinas has proven philosophically that nothing can only create nothing.

Or

The most compelling evidence for Jesus is from the Buenos Aires Eucharistic Miracle, the Poland Eucharistic Miracle, and the Shroud of Turin.

- B** Once you have approved student topics and supporting points, have them begin to construct their talks in outline form using the speech outline from **Extemporaneous Speech Outline** on **pg. 91** of the Student Workbook.




- C** Explain that another way to think of this format is an old saying in public speaking:

- First, tell the audience what you're going to tell them.
- Then, tell them.
- Finally, tell them what you told them!

- D** Once you have approved their outlines, give each student five large index cards and have them write the following labels on them:

- Introduction
- First point
- Second point
- Third point
- Conclusion

- E** Have your students write bullet points (NOT full sentences or paragraphs) on the cards, to remind them of main points they will want to make in their speech.

- F** Let them know they can prompt themselves on the cards with cues or symbols like  to mean "pause," or   to mean "look intently at the audience" to help them emphasize key points.

- G** Students can continue to work on their outlines/cards in the next class period. They should be ready to deliver their speeches by the end of the second class period. Be sure to invite parents to be a part of the presentations.

Optional Enrichment

- A Show the first 9 min., 30 sec. of the video of Archbishop Venerable Fulton Sheen speaking on how he prepares talks, found at SophiaOnline.org/SheenSpeeches.
- B Have students watch the video in order to hear Venerable Fulton Sheen’s advice, but also as an example of extemporaneous speech itself to analyze. They should pay particular attention to Bishop Sheen’s delivery, and assess his use of pacing, gestures, pauses, and stories.

DAYS 3 AND 4

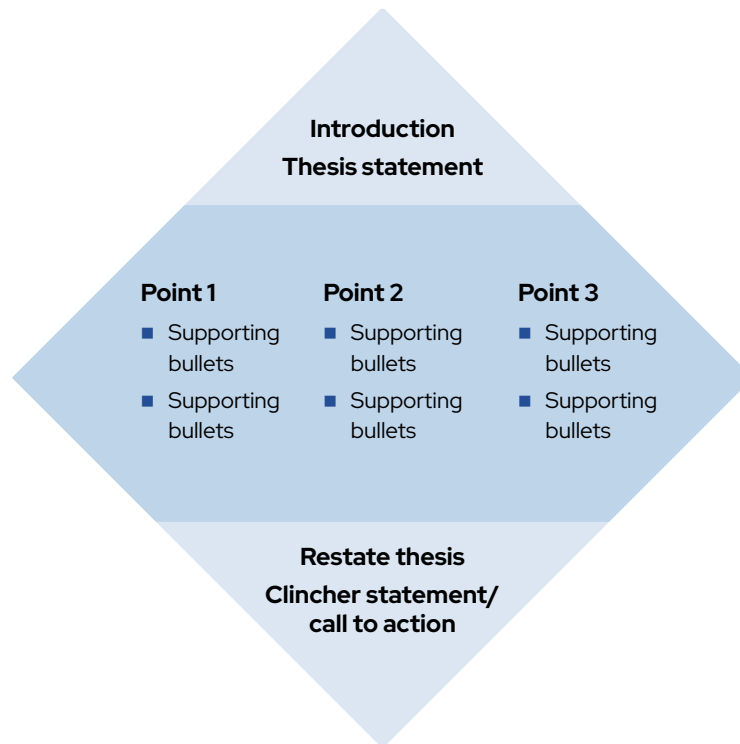
- A Have a podium ready and call on students to give their speeches to the class in turn.
- B As they present, complete for each student a copy of the **Extemporaneous Speeches Rubric** from **Appendix B: Public Speaking Rubrics** found on **pg. 257** of the Student Workbook.
- C Distribute to each student enough copies of **Teacher Resource: Peer-Review: Extemporaneous Speeches**, found on **pg. 135** of this guide, for each student to be able to take notes on each student presenter. Instruct the class to take notes on what each of their classmates did best as they present, specifically the most persuasive point they made and one question they might have for the speaker.

Warm-Up Worksheet
(page 89 in the Student Workbook)

Extemporaneous Speech Template

In speech and debate competitions, students are given 20 minutes to prepare a five-minute persuasive speech on a topic of societal interest. Students may use their preparation time to do research on their topic.

An extemporaneous speech should be organized like the diagram below:



Extemporaneous speeches should generally follow the format of a five-paragraph essay you should be familiar with from English class.

- The **introduction** should begin with an attention-getter, for example – depending on your topic and their audience – you could choose a joke, a famous quote, a story, personal experience, startling information, or a rhetorical question. The introduction should then explain your thesis statement.
- **Supporting paragraphs** should have a topic sentence/main idea with supporting information.

Warm-Up Worksheet

(page 90 in the Student Workbook)

- Ideally, you should include a **transition sentence** between paragraphs.
- After your supporting paragraphs, you should **restate your thesis**.
- Finally, the **conclusion** should **restate your thesis statement** and briefly review the key points you have made in support of it. Then, you should end on a strong, memorable note (known as a clincher statement) or a call to action for the audience.

Using note cards

It is recommended that for extemporaneous speeches, you prepare 5–6 note cards to refer to throughout your speech. These cards should contain bulleted information only, and not full sentences.

You should number your cards and may choose to hole punch the cards in one corner and thread onto a metal ring, or tie with a string.

You can follow the format below to organize your note cards:

- One card with introduction (attention-getter, your thesis statement).
- One card with first piece of evidence and supporting bullets.
- One card with second piece of evidence and supporting bullets.
- One card with third piece of evidence and supporting bullets.
- One card with summary of a contrary view and refutation [*for longer, more advanced speeches*].
- One card with conclusion (restatement of thesis, clincher statement/call to action).



Activity Worksheet
(page 91 in the Student Workbook)

Extemporaneous Speech Outline

Directions: Complete the outline for your extemporaneous speech as completely as possible.

Topic: _____

I. Introduction

Attention-getter: e.g. a joke, a famous quote, a story, personal experience, startling information, or rhetorical question.

Thesis statement:

II. First Point

Main Idea: _____

Supporting idea:

Supporting idea:

Activity Worksheet
(page 92 in the Student Workbook)

III. Second Point

Main Idea: _____

Supporting idea:

Supporting idea:

IV. Third Point

Main Idea: _____

Supporting idea:

Supporting idea:

V. Conclusion

Restatement of thesis statement:

Clincher statement or call to action:

TEACHER RESOURCE

Peer-Review: Extemporaneous Speeches

Directions: Complete each section for each speech.

Name of speaker: _____
Draw a star next to the two skills this person did the best in:
Good eye-contact <input type="checkbox"/> Good posture <input type="checkbox"/> Clear, projected voice <input type="checkbox"/>
The most persuasive point this person made in his or her speech:

One question I would have for this person:

Name of speaker: _____
Draw a star next to the two skills this person did the best in:
Good eye-contact <input type="checkbox"/> Good posture <input type="checkbox"/> Clear, projected voice <input type="checkbox"/>
The most persuasive point this person made in his or her speech:

One question I would have for this person:

