Leonhard Euler

Name: Beth Euler

General Purpose: To inform

Specific Purpose: The audience will learn about Leonhard Euler

INTRODUCTION

[BREATHE...MAKE EYE CONTACT]

Catchy Attention Getter: [INTRO SLIDE] It isn't every day that you learn that you are related to a famous mathematician.

Central Idea: In the genealogy, it was discovered that an ancestor to my husband's family was, in fact, Leonhard Euler [OILER], the famous Swiss – German-speaking mathematician. Coincidentally, my father-in-law's name is Leonard Euler OR Leonhard Euler [OILER].

Establish Credibility: From my research and from reading of the genealogy, I have gained a considerable amount of knowledge about Leonhard Euler [OILER]. However, I will never claim to fully understand his mathematical equations. **[BLANK SLIDE]**

Preview Points: Today, you will learn about Euler's [OILER's]
 1. Background and upbringing
 2. Career
 3. Legacy

*Transition to Main Point I: First, let's learn about Leonhard Euler's [*OILER*]'s interesting formative years.*

[0:50] [PAUSE…]

BODY

I. Early Years

    A. **(Walter Gautschi [Gŏtski], "Leonhard Euler [OILER]: His Life, the Man, & His Work," 2008)** Came from modest beginnings...

        1. Born April 15, 1707

        2. in Basel [Bäsel], Switzerland

3. Father was vicar

B. Schooling...

    1. Homeschooled by father – 8 yrs

    2. THEN Latin school in Basel

    3. At 13, University of Basel

    4. At 16, graduated, Master's degree

C. Married Katherina Gsell

    1. 1734

    2. 13 children, 5 lived

D. Survived misfortunes

    1. Severe infection, 1735 – almost died

    2. 3 years later, same infection – lost right eye **[SLIDE] [BLANK SLIDE]**

    3. 1771 – lost eyesight entirely

E. To comment on his Personality – **to quote Walter Gautschi [Gŏtski]** 1. "Modest, inconspicuous, uncomplicated…down-to-earth and upright" (p. 29) 2. "Sharing ideas with others and letting others take part in the process of

    discovery is another noble trait of Euler [OILER]" (p. 30) **END QUOTE**

    3. Overall, did not object if others took credit

[2:30]

Transition to Main Point II: Between the ages of 16 and 19, Euler [OILER] taught theology as part of the faculty at Basel; however, it seemed he was destined for a career in mathematics.

II. Career (**Continuing to reference Gautschi's [Gŏtski] article**)

A. In 1727 (20 yrs old) left Basel...**Academy of Sciences in St. Petersburg,**

Russia: Founded by Peter the Great

    1. Adjunct, mathematical sciences

    2. Mastered Russian, both speaking and writing

B. Quite productive

    1. Mechanics, music theory, naval architecture

2. Number theory, physics, astronomy

C. **1741: Made move to Berlin**

    1. Work at Academy of Sciences

    2. **1746,** Director of Mathematics Class

    3. Passed over for *President of Academy*

D. **1766: Return to St. Petersburg, invitation of Catherine II**

    1. Highly respected at Academy

    2. Remained active with writing – including a bestseller:

        a. Letters to a German Princess –

        b. **(Michael Aliprandini, [ALI-pran-DINI],** *"Leonhard Euler*

          [OILER]," **2017)** contained 200 letters

        c. Clear style

        d. Made math and sciences accessible

[4:00]

Transition to Main Point III: *Euler's [*OILER*'s] achievements are almost endless; he left an amazing legacy.*

III. **(Luke Mastin,** *The Story of Mathematics***, 2010 - SPEAKS TO THIS...)** Legacy

    A. Contributions to Geometrical properties **[SLIDE], such as:**

        1. OILER's Line

        2. OILER's Circle

    B. **(Interview, Leonard Euler, 10 Sept. 2018)**:

        1. most familiar with OILER's line and circle
        2. Recieves for gifts

Returning to Mastin's article...

    C. Prime Number Theorem

    D. e – base of the natural logarithm

    E. i – "imaginary unit" – equal to the square root of -1

F. π – pi, the ratio of a circle's circumference to its diameter

G. Several other notations – seen here **[BLANK SLIDE]**
Transition to Conclusion*: Let's review what has been shared… **[5:00]***

CONCLUSION

Summarizing Statements: **[DO NOT READ…EYE CONTACT]**

1. OILER was essentially a child prodigy, who survived several misfortunes in his life but remained active throughout his life.

2. Most of his professional life was spent in St. Petersburg, Russia where he was creative and productive.

3. OILER's legacy remains intact still today; his discoveries, theories, and mathematical notations are utilized daily and make him one of the greatest minds of the 18th century.

Concluding Device: Upon his death in 1783, **as Mastin reports,** Leonhard Euler [OILER] had written over 900 volumes of work. His mathematical mind may not be easy for everyone to understand. However, his colleague, Condorcet, [Con-dor-SAY] may have said it best in his own words, stating, '"OILER calculates as other people breathe."'

[5:30]

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