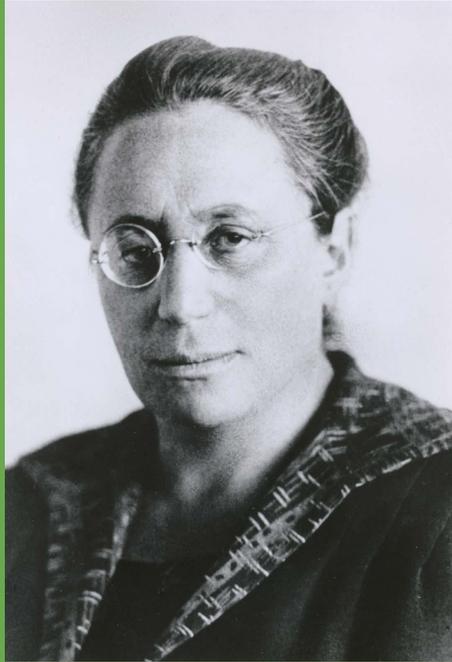# Amalie (Emmy) Noether

Female Mathematicians

By Ella

During her Life

University of Erlangen in Germany

- Emmy was born in 1882 and her father was a math professor at the University of Erlangen and that's one of the reason why she started to be interested in math

- She couldn't enroll in the college Erlangen because she was a woman but she did audit the classes. Also, when Emmy was on staff of Göttingen University but didn't get paid to lecture like her male colleagues

- At this time girls were only allowed to go to "finishing school," where they learn to teach. Emmy became certified to teach French and English but never did because she pursued mathematics.
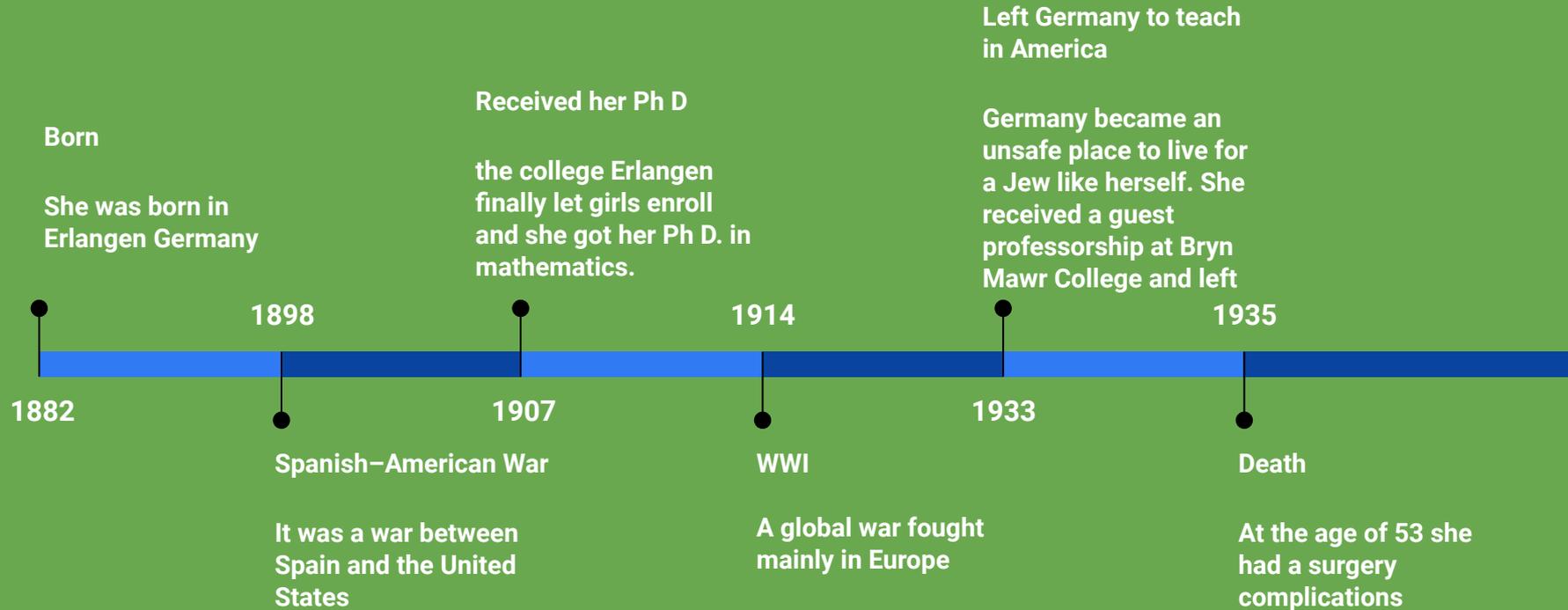
Emmay's Accomplishments

- Emmy Noether discovered the link between conservation laws and symmetries. Conservation laws is when a particular quantity must stay constant. For example, energy can't be created or destroyed. Symmetries is the changes that can be made without changing the way the object looks or acts. For example, it doesn't matter how you rotate or change the direction of a sphere it will always appear the same.

- She also found noncommutative algebras which is when there is a specific order that numbers be multiplied to solve the equation.

The Importance of her Accomplishments
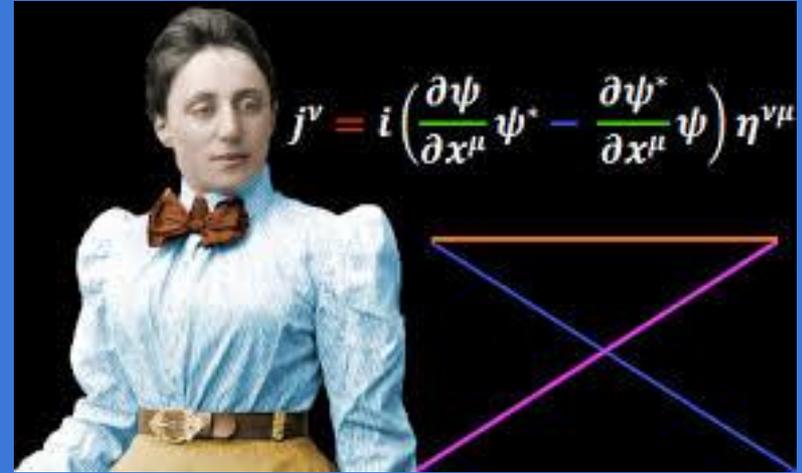
- The link between conservation laws and symmetries is called Noether's Theorem. It is important because it gives us insight into conservation laws. Also, it is important because it shows scientists that repeating an experiment at different times won't change the results.

Timeline

Born

She was born in Erlangen Germany

Received her Ph D

the college Erlangen finally let girls enroll and she got her Ph D. in mathematics.

Left Germany to teach in America

Germany became an unsafe place to live for a Jew like herself. She received a guest professorship at Bryn Mawr College and left

1898

1914

1882

1907

1933

1935

Spanish–American War

It was a war between Spain and the United States

WWI

A global war fought mainly in Europe

Death

At the age of 53 she had a surgery complications

Bibliography

- "Creative Mathematical Genius"

https://www.sdsc.edu/ScienceWomen/noether.html

- "History of Scientific Women"

https://scientificwomen.net/women/noether-emmy-75

- "Emmy Noether German Mathematician"
https://www.britannica.com/biography/Emmy-Noether

- "In her short life, mathematician Emmy Noether changed the face of physics"

https://www.sciencenews.org/article/emmy-noether-theorem-legacy-physics-math