STEAMS Caroline Herschel Project-Based Lesson Plan (K-12)

Objective: The primary objective of this lesson plan is to immerse students in an interdisciplinary exploration of Caroline Herschel's life and contributions to astronomy, fostering critical thinking skills, scientific inquiry, and an appreciation for women's contributions to traditional STEM fields. By integrating STEAMS components, students will delve into various aspects of Caroline Herschel's story, including science, technology, engineering, arts, mathematics, and social studies.

Key Components

Science (S):	Topics: ❖ Investigate the scientific concepts related to astronomy and celestial observations, focusing on Caroline Herschel's discoveries and contributions to the field. ❖ Explore the impact of Caroline Herschel's work on our understanding of the universe and the role of women in science.
Technology (T):	Topics: ❖ Utilize digital tools to research Caroline Herschel's biography, her astronomical discoveries, and the technology she used in her observations. ❖ Create digital presentations or multimedia projects to showcase Caroline Herschel's life, achievements, and legacy in the field of astronomy
Engineering (E):	Topics: ❖ Engage in an engineering design challenge inspired by Caroline Herschel's telescopes and observational instruments.

	❖ Design and build models of telescopes or other astronomical instruments, considering the engineering principles behind their functionality.
Arts (A):	Topics: ❖ Explore the artistic representations of Caroline Herschel's story through literature, music, and visual arts. ❖ Create original artwork inspired by Caroline Herschel's astronomical discoveries, using various artistic mediums to convey the beauty and wonder of the cosmos.
Math (M):	Topics: ❖ Apply mathematical concepts to analyze astronomical data collected by Caroline Herschel and other astronomers of her time. ❖ Explore mathematical puzzles or challenges inspired by Caroline Herschel's work, such as calculating distances to celestial objects or determining orbital parameters.
Social Studies (SS):	Topics: ❖ Delve into the social and historical context of Caroline Herschel's life, including the challenges and opportunities faced by women in science during the 18th and 19th centuries. ❖ Discuss the impact of Caroline Herschel's pioneering efforts on the advancement of astronomy and the broader scientific community.

Project Phases and Timeline:

Day 1: Introduction to Caroline Herschel	❖ Introduction to Caroline Herschel and her contributions to astronomy.
Day 2: Science and Technology	❖ Research Caroline Herschel's biography and astronomical discoveries.
Day 3: Engineering	❖ Engage in an engineering design challenge inspired by Caroline Herschel's telescopes.
Day 4: Arts	❖ Explore the artistic representations of Caroline Herschel's story through various mediums.
Day 5: Math	❖ Analyze astronomical data and mathematical concepts related to Caroline Herschel's work.
Day 6: Social Studies	❖ Discuss the historical and social context of Caroline Herschel's life and contributions to science.

Assessment Criteria

Students will be assessed based on their participation in discussions, completion of assignments and projects, creativity in design challenges and artwork, and understanding of

Caroline Herschel's life and contributions to astronomy.