

STEAMS Women's Sportswear Project-Based Lesson Plan (7-12)

Objective: This lesson plan aims to immerse students in an interdisciplinary exploration of women's sportswear, highlighting its evolution, technological advancements, engineering, cultural significance, and impact on society. Through integrating Science, Technology, Engineering, Arts, Mathematics, and Social Studies (STEAMS), students will gain a comprehensive understanding of the design, function, and societal roles of women's sportswear.

Key Components

Science (S):	Topics: <ul style="list-style-type: none">❖ Investigate the science behind materials used in women's sportswear, focusing on properties like breathability, moisture-wicking, and durability.❖ Explore the physiological impact of proper sportswear on athletic performance and injury prevention.
Technology (T):	Topics: <ul style="list-style-type: none">❖ Utilize digital tools to research the latest innovations in sportswear technology, such as smart fabrics and wearables that monitor athletic performance.❖ Examine the role of technology in the manufacturing process, from 3D printing to sustainable production techniques.
Engineering (E):	Topics: <ul style="list-style-type: none">❖ Engage in an engineering design challenge to create a piece of women's sportswear that meets specific performance criteria,

	<p>considering factors such as comfort, functionality, and environmental impact.</p> <ul style="list-style-type: none"> ❖ Analyze the engineering considerations behind ergonomic design and how it enhances athletic performance and comfort.
<p>Arts (A):</p>	<p>Topics:</p> <ul style="list-style-type: none"> ❖ Explore the evolution of women's sportswear design, reflecting on how changes in fashion have mirrored societal shifts in the perception of women in sports. ❖ Create original designs for women's sportswear that incorporate functional, aesthetic, and cultural elements.
<p>Math (M):</p>	<p>Topics:</p> <ul style="list-style-type: none"> ❖ Apply mathematical concepts to the design and production of sportswear, including geometry for pattern making and statistics for market analysis and sizing standards. ❖ Use data analysis to study trends in sportswear sales and consumer preferences.
<p>Social Studies (SS):</p>	<p>Topics:</p> <ul style="list-style-type: none"> ❖ Delve into the history of women's participation in sports and how sportswear has evolved to meet their needs, reflecting broader social and cultural changes. ❖ Discuss the impact of sportswear on women's empowerment in sports, including issues of accessibility, body image, and gender norms.

Project Phases and Timeline:

Day 1: Science	<ul style="list-style-type: none">❖ Introduction to the materials science behind sportswear.
Day 2: Technology	<ul style="list-style-type: none">❖ Research on technological innovations in women's sportswear.
Day 3: Engineering	<ul style="list-style-type: none">❖ Design challenge focusing on creating functional sportswear.
Day 4: Arts	<ul style="list-style-type: none">❖ Designing women's sportswear that balances function and fashion.
Day 5: Math	<ul style="list-style-type: none">❖ Mathematical applications in sportswear design and market analysis.
Day 6: Social Studies	<ul style="list-style-type: none">❖ Exploring the cultural and social dimensions of women's sportswear.

Assessment Criteria

Students will be evaluated based on their participation in discussions, creativity and innovation in their design challenges, understanding of the scientific and mathematical principles applied, and their insights into the social and cultural implications of women's sportswear using STEAMS approach. This comprehensive approach ensures a deep engagement with the multifaceted aspects of women's sportswear, encouraging students to

appreciate its significance beyond mere apparel.