

## Physics / 11th-12th Grade Athletic Performance in Society

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<u><a href="#">Key Adaptive Competency of Focus</a></u>	<b>Collaboration</b>
<b>Essential questions</b>	<p><b>How is physical performance impacted by geographical location, sex, race, gender identity, etc.? What is the cultural significance/history of athletics and how that contributes to the present day? Are athletics a basic human right? How does this inform the way we think about athletics at different levels of competition, the pay gap between male and female athletes, Title XI, LGBTQ athletes, and more?</b></p> <p>What is race? What place has race had in athletic performance through history? Is there a competitive advantage between races? How have sports been tailored to favor one race over another? What is gender? How does one's biological sex affect physical performance? How does one's socioeconomic background impact one's ability to compete at a high level? How do these different factors affect the force with which activities are accomplished and how does this impact competitive advantage?</p>
<b>Social justice topic</b>	<b>Title XI, Pay Gaps, Women's Rights, LGBTQ rights, Human Rights, Accessibility</b>

### Assessment Framework

<b>Learning Targets</b>	<p>I can... work with peers to build a common understanding of how race, gender, socioeconomic factors can affect participation in sports.</p> <p>I can ... evaluate various sources for bias and reliability.</p> <p>I can... explain the mathematical relationship between data sets and present my findings to support or debunk a claim.</p> <p>I can... organize information into data tables and graphs to communicate across findings to my peers.</p>
<i>Long Term, Short Term (Weekly/Daily)</i>	

<p><b>Academic Competencies</b></p>	<p>Forces, Kinematics, Momentum, Impulse</p> <ul style="list-style-type: none"> <li>Analyze data to support the claim that Newton’s second law of motion describes the mathematical relationship among the net force on a macroscopic object, its mass, and its acceleration.</li> <li>Use mathematical representations to support the claim that the total momentum of a system of objects is conserved when there is no net force on the system.</li> </ul> <p><i>Common Core State Standards Connections:</i>  <i>ELA/Literacy -</i></p> <p><b>RST.11-12.1</b> Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account. <i>(HS-PS2-1)</i></p> <p><b>RST.11-12.7</b> Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem. <i>(HS-PS2-1)</i></p> <p><b>WHST.11-12.7</b> Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. <i>(HS-PS2-3),(HS-PS2-5)</i></p> <p><b>WHST.11-12.8</b> Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation. <i>(HS-PS2-5)</i></p> <p><b>WHST.11-12.9</b> Draw evidence from informational texts to support analysis, reflection, and research. <i>(HS-PS2-1),(HS-PS2-5)</i></p>
<p><b>Adaptive Competency/ies</b></p>	<p>Collaboration</p> <ul style="list-style-type: none"> <li>I integrate new ideas into my work by working with others to enhance resources and gain additional knowledge or skills.</li> <li>I value diversity and synthesize experiences and knowledge from others while considering the significance of cultural norms, context, and audience to both include various perspectives and communicate my message effectively.</li> </ul> <p>-Students will demonstrate that they value diversity through an examination of different perspectives on their social justice topic. This may not be the perspective that they agree with, but they have to present the most popular views on them and then examine why those views are prevalent. Whether they are grounded in fact/data or simply in speculation. Students will share this with their class and group members, but also be</p>

	<p>asked to engage in similar tough topics while their classmates present.</p> <ul style="list-style-type: none"> <li>• I speak with purpose, communicate effectively, actively listen and both contribute new ideas and encourage participation from others.</li> <li>• I ensure that I balance the mutual interdependence of the group while working towards my own personal ambitions as well.</li> </ul> <p>-This will be accomplished through assigning roles and ensuring that the metrics of the collaboration rubric are met. At the end of the project students will complete the group project assessment guide where students will need to evaluate their percent contribution to the group while also providing evidence to support this claim. To ensure full points, we must aim for a balanced workload.</p>
<b>Social &amp; Emotional Learning</b>	<p>The entire purpose of this assessment is to understand social justice issues from societal, emotional, and scientific points of view. Only through examining multiple facets of these issues are we able to inform our own opinion, but also be able to demonstrate empathy for others with different ones. I will be asking students to discuss difficult topics with the idea of being a learner and seeking to understand not to judge. Given those parameters, students must also present their ideas with others in mind.</p>
<b>Prework</b>	<ul style="list-style-type: none"> <li>• Students need to have a basic understanding of kinematic principles, forces, and momentum.</li> <li>• Students can prepare for this assessment by first seeking to define the topics of race, gender, and sex.</li> <li>• Other topics students will need to be informed about include pay gaps, socioeconomic classes, and the pay-to-play system in the US.</li> </ul>
<b>Pre-Assessment/Self-Reflection</b>	<p><a href="#">Anticipation Guide</a></p> <p>Possible Statements: Men are better than Women at physical competition. Wealthier people are better at sports than poorer people. Your race matters when it comes to physical competition.</p> <p>Read Wall Street Journal Article on Replacing the Binary, Pay to Play Article by ESPN (links in Anticipation Guide)</p>
<b>Social Justice</b>	<b>Title XI, pay gaps, Women's Rights, LGBTQ rights, Human Rights, Accessibility</b>
<b>Opportunity for Student Voice</b>	<p>Students will be allowed to brainstorm and add topics to the suggested topics given to the class. Students may choose which topic to discuss and present on. They may present their</p>

	findings through various means. This includes ppt, essays, video, brochures, posters, or any other media they choose to communicate across their information.
<b>Instruction/Supports from Teachers</b>	<ul style="list-style-type: none"> <li>- <a href="#">Anticipation Guide</a></li> <li>- <a href="#">Planning Guide</a></li> <li>- <a href="#">Instructions for Assessment</a></li> <li>- <a href="#">Peer Presentation Guide</a></li> </ul>
<b>Student Demonstration of Learning</b>	Present findings on the issue and how it relates to physics. Evidence supporting your argument from 3 different sources.
<b>Assessment of Learning</b>	<ul style="list-style-type: none"> <li>- <a href="#">Collaboration Rubric</a></li> <li>- <a href="#">Assessment Instructions</a></li> </ul>
<b>References/Resources</b>	<a href="https://www.sbs.com.au/news/insight/article/are-transgender-athletes-really-a-threat-to-womens-sport/4d0lseviu">https://www.sbs.com.au/news/insight/article/are-transgender-athletes-really-a-threat-to-womens-sport/4d0lseviu</a> <a href="https://bjsm.bmj.com/content/55/11/577">https://bjsm.bmj.com/content/55/11/577</a> <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7846503/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7846503/</a> <a href="https://www.wsj.com/articles/the-race-to-replace-the-binary-of-mens-and-womens-sports-11583769636">https://www.wsj.com/articles/the-race-to-replace-the-binary-of-mens-and-womens-sports-11583769636</a> <a href="https://www.wsj.com/articles/the-race-to-replace-the-binary-of-mens-and-womens-sports-11583769636">https://www.wsj.com/articles/the-race-to-replace-the-binary-of-mens-and-womens-sports-11583769636</a> <a href="https://www.espn.com/espn/story/_/id/27356477/kids-playing-enough-sports-culprit-cost">https://www.espn.com/espn/story/_/id/27356477/kids-playing-enough-sports-culprit-cost</a> <a href="https://law.duke.edu/sports/sex-sport/comparative-athletic-performance/">https://law.duke.edu/sports/sex-sport/comparative-athletic-performance/</a>
<b>Showcase of Learning</b>	Peer to Peer Presentation in class. Time Frame: 4th Quarter