

2021 Academic Super Bowl
Junior English
Final Study Guide
The American Woman:
A Century of Progress, 1920-2020



"YOU DON'T MAKE PROGRESS BY STANDING ON THE SIDELINES... YOU MAKE PROGRESS BY IMPLEMENTING IDEAS."
SHIRLEY CHISHOLM
FIRST AFRICAN AMERICAN WOMAN ELECTED TO CONGRESS

- I. Novel - 50%
 - A. *The Bean Trees* by Barbara Kingsolver

- II. Poetry - 40%
 - A. "We Real Cool" by Gwendolyn Brooks
<https://www.poetryfoundation.org/poetrymagazine/poems/28112/we-real-cool>
 - B. "Wild Geese" by Mary Oliver
http://www.phys.unm.edu/~tw/fas/yits/archive/oliver_wildgeese.html
 - C. "Mirror" Sylvia Plath
<https://allpoetry.com/poem/8498499-Mirror-by-Sylvia-Plath>
 - D. "Diving Into the Wreck" by Adrienne Rich
<https://poets.org/poem/diving-wreck>

- III. Non-Fiction - 33%
 - A. "Nobel Lecture" by Toni Morrison
<https://www.nobelprize.org/prizes/literature/1993/morrison/lecture/>

2021 Outlines were developed by coaches who chose to share ideas at the 2019 Academic Coaches Conference, and through email, and further developed by question writers.

2021 Academic Super Bowl
Junior Math
Final Study Guide
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- I. Analytic Geometry – 52%
 - A. Distance Formula
 - B. Midpoint Formula
 - C. Linear equations (all forms)
 - 1. Parallel lines
 - 2. Perpendicular lines
 - 3. Intercepts
 - D. Geometric figures (area, diagonal)
 - 1. Parallelogram
 - 2. Rectangle
 - 3. Rhombus
 - 4. Kite
 - E. Classification of Triangles
 - F. Circles
 - 1. Equation
 - 2. Area
 - 3. Circumference
 - G. Quadratics
 - 1. Analyze vertex form, standard form
 - 2. Vertex
 - H. Transformations
 - 1. Translation
 - 2. Reflection
- II. Matrices – 32%
 - A. Dimensions
 - B. Translation
 - C. Operations
 - 1. Addition and subtraction
 - 2. Scalar multiplication, multiplication
 - D. Inverse of 2 x 2 matrix
 - E. Determinant: 2 x 2 and 3 x 3
 - F. Application: Area of Triangle using a determinant
 - G. System of Equations
 - 1. Matrix Equation
 - 2. Cramer’s Rule
- III. Mathematicians and Hidden Figures – 16%
 - A. Marjorie Lee Browne
 - B. Christine Darden
 - C. Evelyn Boyd Granville
 - D. Euphemia Hayes
 - E. Mary Jackson
 - F. Katherine Johnson
 - G. Julia Robinson
 - H. Dorothy Vaughan

Only the TI-30XA and TI-30XIIS calculators may be used during competitions.

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2021 Academic Super Bowl

Junior Science

Final Study Guide

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SHIRLEY CHISHOLM
FIRST AFRICAN AMERICAN WOMAN ELECTED TO CONGRESS

- I. Female Scientists: (approximately 50%)
- Barbara McClintock (Nobel Prize: Genetics/Chromosomes)
 - Virginia Apgar (innovations related to labor, delivery, and early child assessment)
 - Rachel Carson (Silent Spring; environmental awareness)
 - Stephanie Kwolek (Dupont Chemist; polymer research)
 - Paula Hammond (MIT-chemical engineering & process engineering)
 - Florence Sabin (Tuberculosis research and women's activist)
 - Hazel Bishop (Lipstick; cosmetics)
- *Focus primarily on the scientific and social contributions related to each scientist.
*Emphasis is placed on science content and concepts (below) that are relevant to the work of the listed scientists (above).
- II. Life Science: (approximately 25%)
- Genetics: (about 20 of Life Science percentage)
Basic concepts and terminology: (DNA, genes, karyotypes, conditions, sex-linked factors, etc.)
Chromosomes (structure, types, classification terminology, function, cytogenetics, transposons, etc.)
 - Biology: (approximately 5% of Life Science percentage)
 - Tuberculosis
 - Skin (structure, care, properties)
 - Early child development/care; (pregnancy/delivery, APGAR score)
- III. Environmental Science: (approximately 10%)
- Environmental concerns (Pesticides; DDT, BPA)
 - Environmental toxins (toxins in the home, chemical uses/concerns, regulation)
- IV. Chemistry (approximately 15%)
- Polymers (structure, uses, types/synthetic, natural)
 - Chemical additives in food (general types, common additives + their applications)
 - Chemistry of cosmetics (ingredients-desired effects, lotions, sunscreens)
 - Engineering applications (biochemical engineering, nanoparticles) cosmetic design/use; (lipstick, lotions, sunscreen)
 - Polymer chemistry; (Natural polymers, Kevlar, nanoparticles)

Print Resources: (useful but not required to purchase-research can be conducted using reputable websites)
Withgott and Laposatta. Environment; The science behind the stories) AP 6th edition (pg 170) provided.
Rachel Carson: *Silent Spring*
Pearson's *Interactive Series Cells and Heredity* ISBN-13 978-0-13-368489-6; ISBN-10 0-13-368489-X

Internet sites (provided on additional page)

Junior Science Websites:

1. **Barbara McClintock** (Nobel Prize: Genetics/Chromosomes)

Biography and Career: <https://www.nobelprize.org/prizes/medicine/1983/mcclintock/facts/>

Science: <https://www.pnas.org/content/109/50/20198>

<https://www2.palomar.edu/users/warmstrong/transpos.htm>

2. **Virginia Apgar** (innovations related to labor, delivery, and early child assessment)

Biography and Career: https://cfmedicine.nlm.nih.gov/physicians/biography_12.html

https://www.pbs.org/wgbh/theymadeamerica/whomade/apgar_hi.html

https://www.youtube.com/watch?v=whQIhiYOR_Q

<https://www.marchofdimes.org/mission/virginia-apgar.aspx#>

Science:

<https://kidshealth.org/en/parents/apgar.html>

<https://www.cdc.gov/ncbddd/actearly/milestones-2mo.html>

3. **Rachel Carson** (Silent Spring; environmental awareness)

Biography and Career:

<https://www.sierracollege.edu/ejournals/jscnhm/v6n1/carson.html>

<https://www.nytimes.com/2012/09/23/magazine/how-silent-spring-ignited-the-environmental-movement.html>

Science:

Withgott and Laposatta. Environment; The science behind the stories) AP 6th edition (pg 170) [Can be downloaded free here]

<https://www.epa.gov/sites/production/files/documents/bioaccumulationbiomagnificationeffects.pdf>

<https://www.panna.org/resources/ddt-story>

<https://www.epa.gov/safepestcontrol/food-and-pesticides>

<https://www1.health.gov.au/internet/publications/publishing.nsf/Content/ohp-enhealth-manual-atsi-cnt-l~ohp-enhealth-manual-atsi-cnt-l-ch5~ohp-enhealth-manual-atsi-cnt-l-ch5.7>

https://www.washingtonpost.com/national/health-science/environmental-toxins-are-seen-as-posing-risks-during-pregnancy/2018/08/03/770fab98-7643-11e8-9780-b1dd6a09b549_story.html

<https://www.health.harvard.edu/blog/common-food-additives-and-chemicals-harmful-to-children-2018072414326>

<https://www.brinica.com/topic/food-additive/Preservatives>

4. **Stephanie Kwolek** (Dupont Chemist; polymer research)

Biography and Career:

<https://www.sciencehistory.org/learn/women-in-chemistry>

https://en.wikipedia.org/wiki/Stephanie_Kwolek

Science:

<https://hammondlab.mit.edu/research/>

5. **Paula Hammond** (MIT-chemical engineering & process engineering)

Biography and Career:

https://en.wikipedia.org/wiki/Paula_T._Hammond [I added source]

Science:

6. **Florence Sabin** (Tuberculosis research and women's activist)

Biography and Career:

<https://www.smithsonianmag.com/science-nature/medical-pioneer-who-pushed-boundaries-science-and-feminism-180969555/>

https://en.wikipedia.org/wiki/Florence_R._Sabin

Science:

<https://www.cdc.gov/tb/topic/testing/default.htm>

7. Cosmetic and Household Product Inventors:

Hazel Bishop and Marian Donovan:

Biography and Career:

https://en.wikipedia.org/wiki/Hazel_Bishop

<https://www.cosmeticsandskin.com/companies/hazel-bishop.php>

<https://lemelson.mit.edu/resources/marion-donovan>

Science:

<https://chemistscorner.com/cosmetic-formulation-basics-skin-lotion/>

<https://www.womenshealthmag.com/beauty/a19972050/gross-lipstick-ingredients/>

<http://www.madehow.com/Volume-1/Lipstick.html>

<https://www.fda.gov/drugs/understanding-over-counter-medicines/sunscreen-how-help-protect-your-skin-sun>

<http://www.yalescientific.org/2010/04/everyday-qa-how-does-a-perm-work/>

<https://www.aad.org/public/everyday-care/skin-care-basics>

<https://www.aad.org/public/everyday-care/skin-care-basics/dry/oily-skin>

<https://www.medicalnewstoday.com/articles/320435>

<https://training.seer.cancer.gov/melanoma/anatomy/>

<https://www.allure.com/story/skin-care-terms-glossary-definitions>

2021 Academic Super Bowl

Junior Social Studies

Final Study Guide

The American Woman:
A Century of Progress, 1920–2020



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SHIRLEY CHISHOLM
FIRST AFRICAN AMERICAN WOMAN ELECTED TO CONGRESS

- I. Alice Paul, the suffrage movement, and passage of the 19th Amendment - 40%
 - A. After the ballot, Alice Paul’s continuing work for women’s right and equal rights
 - 1. The Equal Rights Amendment
 - 2. Title VII of the Civil Rights Act of 1964
 - B. The Role of Women of Color in the Suffrage Movement
 - 1. Important Leaders
 - a. Ida B. Wells-Barnett
 - b. Mary Church Terrell
 - c. Hallie Quinn Brown
 - 2. Problems faced by women of color as they tried to use their newly acquired franchise

- II. Progress and Failure in Women’s Rights, 1920 - 2020 - 40%
 - A. Progress through Legislation
 - 1. The Equal Pay Act of 1963
 - 2. Title VII of the Civil Rights Act of 1964
 - 3. The Voting Rights Act of 1965
 - 4. Title IX
 - 5. The Pregnancy Discrimination Act of 1978
 - 6. The Violence Against Women Act
 - B. Significant Legislative Failures
 - 1. Conservatives led by Phyllis Schlafly block the passage of the Equal Rights Amendment
 - 2. President Nixon vetoes the Comprehensive Child Development Act
 - 3. The Violence Against Women Act expires in the Senate in 2019
 - C. Progress Through the Supreme Court - Four Landmark Sex Discrimination Cases
 - 1. Reed v. Reed (1971)
 - 2. Frontiero v. Richardson (1973)
 - 3. Craig v. Boren (1976)
 - 4. United States v. Virginia (1996)
 - D. The Modern Women’s Movement begins in the 1960’s
 - 1. Leaders
 - a. Betty Friedan
 - b. Gloria Steinem
 - c. Bella Abzug
 - 2. Formation of the National Organization of Women (NOW)
 - 3. The National Women’s Conference in Houston in 1977

- III. Challenges Facing the Women’s Movement in the late 20th and early 21st Centuries - 20%
 - A. The rise of a conservative backlash against women’s rights which persists today
 - B. The National Women’s March on Washington, 2017
 - C. The 2018 mid-term election
 - D. Important issues facing women today
 - E. Kamala Harris and the election of 2020

Source:

Alice Paul and the Fight for Women’s Rights: From the Vote to the Equal Rights Amendment

By Deborah Kops, Calkins Creek Press, 2017

Internet sites listed pages 2 and 3

2021 Outlines were developed by coaches who chose to share ideas at the 2019 Academic Coaches Conference, and through email, and further developed by question writers.

I. Alice Paul, the suffrage movement, and the passage of the 19th Amendment

“African- American Women and the 19th Amendment,” by Sharon Harley, U.S. National Park Service, nps.gov
<https://www.nps.gov/articles/african-american-women-and-the-nineteenth-amendment.htm>

“Black Women finally getting their due for their work to secure women’s right to vote,” by Katie Kindelan,
March 27, 2020, abcnews.go.com
<https://abcnews.go.com/GMA/News/black-women-finally-due-work-secure-womens-vote/story?id=69009913>

“How Black Women Fought for the Right to Vote and a Modicum of Respect,” by Martha S. Jones in
Humanities: The Magazine of the National Endowment for the Humanities, Summer 2019, Volume
40, Number 3, neh.gov
<https://www.neh.gov/article/how-black-suffragists-fought-right-vote-and-modicum-respect>

The 19th Amendment Really only Helped White Women,” by Marilyn La Jeunesse, August 16, 2019,
Teen Vogue, teenvogue.com
<https://www.teenvogue.com/story/19th-amendment-anniversary-benefited-white-women>

“Votes for Women means Votes for Black Women,” National Women’s History, August 16, 2018,
womenshistory.org
<https://www.womenshistory.org/articles/votes-women-means-votes-black-women>

“Women’s Suffrage Leaders Left Out Black Women,” by Evette Dionne, August 18, 2017, Teen Vogue,
teenvogue.com
<https://www.teenvogue.com/story/womens-suffrage-leaders-left-out-black-women>

II. Progress and Failure in Women’s Rights, 1920-2020

“The Equal Rights Amendment: What you need to Know,” by Robin Bleiweis, January 29, 2020,
Center for American Progress, americanprogress.org
<https://www.americanprogress.org/issues/women/reports/2020/01/29/479917/equal-rights-amendment-need-know/>

“From the 19th Amendment to ERA: Constitutional Amendments for Women’s Equality,” by Tracy A. Thomas,
January 22, 2020, American Bar Association, americanbar.org
https://www.americanbar.org/groups/public_education/publications/insights-on-law-and-society/volume-20/issue-1/from-19th-amendment-to-era/

“Frontiero v. Richardson: A Landmark Case for Gender Equality,” March 24, 2017, The National Constitution
Center, constitutioncenter.org
<https://constitutioncenter.org/blog/frontiero-v.-richardson-a-landmark-case-for-gender-equality>

“Reed v. Reed at 40: A Landmark Decision,” by Emily Martin, November 16, 2011, National Women’s
Law Center, nwlc.org
<https://nwlc.org/blog/reed-v-reed-40-landmark-decision/>

“Ruth Bader Ginsburg helped shape the modern era of women’s rights before she went on the Supreme
Court,” by Jonathan Enten, October 2, 2018, The Conversation, theconversation.com
<https://theconversation.com/ruth-bader-ginsburg-helped-shape-the-modern-era-of-womens-rights-before-she-went-on-the-supreme-court-95705>
<https://www.history.com/news/ruth-bader-ginsburgs-landmark-opinions-womens-rights-supreme-court>

“Sex Discrimination—The Search for a Standard,” by Natalie Wexler, The Supreme Court Historical Society Learning Center, supremecourthistory.org
https://supremecourthistory.org/lc_a_double_standard.html

“The Voting Rights Act of 1965 Overview,” FindLaw, [findlaw.com](https://www.findlaw.com)
<https://www.findlaw.com/voting/how-do-i-protect-my-right-to-vote-/the-voting-rights-act-of-1965-overview.html>

“Why America Never Had Universal Child Care,” by Nancy L. Cohen, The New Republic, April 23, 2013, newrepublic.com
<https://newrepublic.com/article/113009/child-care-america-was-very-close-universal-day-care>

“Women’s Rights in the Late 20th Century,” Bill of Rights Institute, [docsoffreedom.org](https://www.docsoffreedom.org)
<https://www.docsoffreedom.org/student/readings/women-s-rights-in-the-late-20th-century>

“Women rights movement,” by Elinor Burkett, Britannica, [britannica.com](https://www.britannica.com)
<https://www.britannica.com/event/womens-movement>

“The 97-Year-History of the Equal Rights Amendment,” by Lila Thulin, November 13, 2019, Smithsonian Magazine, [smithsonianmag.com](https://www.smithsonianmag.com)
<https://www.smithsonianmag.com/history/equal-rights-amendment-96-years-old-and-still-not-part-constitution-heres-why-180973548/>

“The 1977 Conference on Women’s Rights that Split America in two,” by Lorraine Boissoneault, February 15, 2017, Smithsonian Magazine, [smithsonianmag.com](https://www.smithsonianmag.com)
<https://www.smithsonianmag.com/history/1977-conference-womens-rights-split-america-two-180962174/>

III. Challenges Facing the Women’s Movement in the late 20th and early 21st centuries

“The Women’s March is more than an Anti-Trump Protest: Here’s what the Participants Want,” by Jenee Desmond Harris, January 21, 2017, Vox, [vox.com](https://www.vox.com)
<https://www.vox.com/2017/1/21/14342942/womens-march-inauguration-trump-protest-goals-feminism-demands>

“Women’s Candidates Break Records in the 2018 U.S. Midterm Elections,” November 7, 2018, The Conversation, theconversation.com
<https://theconversation.com/women-candidates-break-records-in-the-2018-us-midterm-elections-105829>

“In 2019, women’s rights are still not explicitly recognized in the U.S. Constitution,” December 13, 2018, The Conversation, theconversation.com
<https://theconversation.com/in-2019-womens-rights-are-still-not-explicitly-recognized-in-us-constitution-108150>

“What are the Biggest Problems Women Face Today,” March 8, 2019, Politico Magazine, [politico.com](https://www.politico.com)
<https://www.politico.com/magazine/story/2019/03/08/women-biggest-problems-international-womens-day-225698>

“What do men get that women don’t? Here are a few things,” by Alia E Dastagir, March 1, 2017, USA Today, [usatoday.com](https://www.usatoday.com)
<https://www.usatoday.com/story/news/2017/03/01/2017-womens-history-month/98247518/>

“Top 18 Issues Challenging Women Today,” by Sonia Pressman Fuentes, May 5, 2014, The Shriver Report, shriverreport.org

Court Case Research: www.oyez.org

Kamala Harris, *Wikipedia*

Political Positions of Kamala Harris, *Wikipedia*