Accelerated Global Studies Seminar
Curriculum

Grade 9: Unit Three
Genetically Modified Organisms the Global Debate
Course Description

The international seminar series are based on an examination of contemporary social, economic, political, and environmental issues that are examined within a global context. This course provides an opportunity to experience their learning in a cross-curricular fashion, with rigorous and experiential processes, and life changing elements. Through extensive research and fieldwork, students are expected throughout the course of a year to employ technological skills and analytical skills as a catalyst for advocacy, action, and public information dissemination. Topics include: Water Management Crisis, Genetically Engineered Foods, Free Trade, Globalization, and Human Rights for All. Through a combination of content knowledge and 21st century skills (critical thinking and problem solving, collaboration, entrepreneurialism, written or oral expression, divergent thinking, intercultural competency, creativity, adaptability, resilience), the international studies seminar series introduces its students to problem solving, analysis, and social justice on a global scale.

These themes enhance the interdisciplinary approach between Social Studies, Sciences, Language Arts, Instructional Technology, Mathematics, and Applied Technology.
<table>
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<tr>
<th>Unit 1</th>
<th>Water for Life: Water uses, human rights, and gender</th>
<th>3 Weeks</th>
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<td>Unit 2</td>
<td>Water Management Crisis, Scarcity, Pollution, and Population</td>
<td>7 Weeks</td>
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<td>Unit 3</td>
<td>Genetically Modified Organisms the Global Debate</td>
<td>10 Weeks</td>
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<td>Unit 4</td>
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<td>7 Weeks</td>
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<td>Unit 5</td>
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<td>7 Weeks</td>
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<tr>
<td>Review &amp; Final Exam</td>
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<td>1 Week</td>
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### Educational Technology Standards


- **Technology Operations and Concepts**
  - Create a personal digital portfolio which reflects personal and academic interests, achievements, and career aspirations by using a variety of digital tools and resources.
  - Produce and edit a multi-page digital document for a commercial or professional audience and present it to peers and/or professionals in that related area for review.

- **Creativity and Innovation**
  - Apply previous content knowledge by creating and piloting a digital learning game or tutorial.

- **Communication and Collaboration**
  - Develop an innovative solution to a real world problem or issue in collaboration with peers and experts, and present ideas for feedback through social media or in an online community.

- **Digital Citizenship**
  - Demonstrate appropriate application of copyright, fair use and/or Creative Commons to an original work.
  - Evaluate consequences of unauthorized electronic access and disclosure, and on dissemination of personal information.
  - Compare and contrast policies on filtering and censorship both locally and globally.

- **Research and Information Literacy**
  - Produce a position statement about a real world problem by developing a systematic plan of investigation with peers and experts synthesizing information from multiple sources.

- **Critical Thinking, Problem Solving, Decision Making**
  - Evaluate the strengths and limitations of emerging technologies and their impact on educational, career, personal and or social needs.
# Career Ready Practices

Career Ready Practices describe the career-ready skills that all educators in all content areas should seek to develop in their students. They are practices that have been linked to increase college, career, and life success. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

## CRP1. Act as a responsible and contributing citizen and employee

Career-ready individuals understand the obligations and responsibilities of being a member of a community, and they demonstrate this understanding every day through their interactions with others. They are conscientious of the impacts of their decisions on others and the environment around them. They think about the near-term and long-term consequences of their actions and seek to act in ways that contribute to the betterment of their teams, families, community and workplace. They are reliable and consistent in going beyond the minimum expectation and in participating in activities that serve the greater good.

## CRP2. Apply appropriate academic and technical skills.

Career-ready individuals readily access and use the knowledge and skills acquired through experience and education to be more productive. They make connections between abstract concepts with real-world applications, and they make correct insights about when it is appropriate to apply the use of an academic skill in a workplace situation.

## CRP3. Attend to personal health and financial well-being.

Career-ready individuals understand the relationship between personal health, workplace performance and personal well-being; they act on that understanding to regularly practice healthy diet, exercise and mental health activities. Career-ready individuals also take regular action to contribute to their personal financial wellbeing, understanding that personal financial security provides the peace of mind required to contribute more fully to their own career success.
CRP4. Communicate clearly and effectively and with reason.
Career-ready individuals communicate thoughts, ideas, and action plans with clarity, whether using written, verbal, and/or visual methods. They communicate in the workplace with clarity and purpose to make maximum use of their own and others’ time. They are excellent writers; they master conventions, word choice, and organization, and use effective tone and presentation skills to articulate ideas. They are skilled at interacting with others; they are active listeners and speak clearly and with purpose. Career-ready individuals think about the audience for their communication and prepare accordingly to ensure the desired outcome.

CRP5. Consider the environmental, social and economic impacts of decisions.
Career-ready individuals understand the interrelated nature of their actions and regularly make decisions that positively impact and/or mitigate negative impact on other people, organization, and the environment. They are aware of and utilize new technologies, understandings, procedures, materials, and regulations affecting the nature of their work as it relates to the impact on the social condition, the environment and the profitability of the organization.

CRP6. Demonstrate creativity and innovation.
Career-ready individuals regularly think of ideas that solve problems in new and different ways, and they contribute those ideas in a useful and productive manner to improve their organization. They can consider unconventional ideas and suggestions as solutions to issues, tasks or problems, and they discern which ideas and suggestions will add greatest value. They seek new methods, practices, and ideas from a variety of sources and seek to apply those ideas to their own workplace. They take action on their ideas and understand how to bring innovation to an organization.

CRP7. Employ valid and reliable research strategies.
Career-ready individuals are discerning in accepting and using new information to make decisions, change practices or inform strategies. They use reliable research process to search for new information. They evaluate the validity of sources when considering the use and adoption of external information or practices in their workplace situation.
**CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.**
Career-ready individuals readily recognize problems in the workplace, understand the nature of the problem, and devise effective plans to solve the problem. They are aware of problems when they occur and take action quickly to address the problem; they thoughtfully investigate the root cause of the problem prior to introducing solutions. They carefully consider the options to solve the problem. Once a solution is agreed upon, they follow through to ensure the problem is solved, whether through their own actions or the actions of others.

**CRP9. Model integrity, ethical leadership and effective management.**
Career-ready individuals consistently act in ways that align personal and community-held ideals and principles while employing strategies to positively influence others in the workplace. They have a clear understanding of integrity and act on this understanding in every decision. They use a variety of means to positively impact the directions and actions of a team or organization, and they apply insights into human behavior to change others’ action, attitudes and/or beliefs. They recognize the near-term and long-term effects that management’s actions and attitudes can have on productivity, morals and organizational culture.

**CRP10. Plan education and career paths aligned to personal goals.**
Career-ready individuals take personal ownership of their own education and career goals, and they regularly act on a plan to attain these goals. They understand their own career interests, preferences, goals, and requirements. They have perspective regarding the pathways available to them and the time, effort, experience and other requirements to pursue each, including a path of entrepreneurship. They recognize the value of each step in the education and experiential process, and they recognize that nearly all career paths require ongoing education and experience. They seek counselors, mentors, and other experts to assist in the planning and execution of career and personal goals.

**CRP11. Use technology to enhance productivity.**
Career-ready individuals find and maximize the productive value of existing and new technology to accomplish workplace tasks and solve workplace problems. They are flexible and adaptive in acquiring new technology. They are proficient with ubiquitous technology applications. They understand the inherent risks-personal and organizational-of technology applications, and they take actions to prevent or mitigate these risks.
CRP12. Work productively in teams while using cultural global competence.
Career-ready individuals positively contribute to every team, whether formal or informal. They apply an awareness of cultural difference to avoid barriers to productive and positive interaction. They find ways to increase the engagement and contribution of all team members. They plan and facilitate effective team meetings.
## Differentiated Instruction

### Accommodate Based on Students Individual Needs: Strategies

<table>
<thead>
<tr>
<th>Time/General</th>
<th>Processing</th>
<th>Comprehension</th>
<th>Recall</th>
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<tbody>
<tr>
<td>• Extra time for assigned tasks</td>
<td>• Extra Response time</td>
<td>• Precise step-by-step directions</td>
<td>• Teacher-made checklist</td>
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<tr>
<td>• Adjust length of assignment</td>
<td>• Have students verbalize steps</td>
<td>• Short manageable tasks</td>
<td>• Use visual graphic organizers</td>
</tr>
<tr>
<td>• Timeline with due dates for reports and projects</td>
<td>• Repeat, clarify or reword directions</td>
<td>• Brief and concrete directions</td>
<td>• Reference resources to promote independence</td>
</tr>
<tr>
<td>• Communication system between home and school</td>
<td>• Mini-breaks between tasks</td>
<td>• Provide immediate feedback</td>
<td>• Visual and verbal reminders</td>
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<tr>
<td>• Provide lecture notes/outline</td>
<td>• Provide a warning for transitions</td>
<td>• Small group instruction</td>
<td>• Graphic organizers</td>
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<tr>
<td></td>
<td>• Reading partners</td>
<td>• Emphasize multi-sensory learning</td>
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<tr>
<td><strong>Assistive Technology</strong></td>
<td><strong>Tests/Quizzes/Grading</strong></td>
<td><strong>Behavior/Attention</strong></td>
<td><strong>Organization</strong></td>
</tr>
<tr>
<td>• Computer/whiteboard</td>
<td>• Extended time</td>
<td>• Consistent daily structured routine</td>
<td>• Individual daily planner</td>
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<tr>
<td>• Tape recorder</td>
<td>• Study guides</td>
<td>• Simple and clear classroom rules</td>
<td>• Display a written agenda</td>
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<tr>
<td>• Spell-checker</td>
<td>• Shortened tests</td>
<td>• Frequent feedback</td>
<td>• Note-taking assistance</td>
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<tr>
<td>• Audio-taped books</td>
<td>• Read directions aloud</td>
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<td>• Color code materials</td>
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</tbody>
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### Enrichment

**Accommodate Based on Students individual Needs: Strategies**

- Adaption of Material and Requirements
- Evaluate Vocabulary
- Elevated Text Complexity
- Additional Projects
- Independent Student Options
- Projects completed individual or with Partners
- Self Selection of Research
- Tiered/Multilevel Activities
- Learning Centers
- Individual Response Board
- Independent Book Studies
- Open-ended activities
- Community/Subject expert mentorships
Assessments

Suggested Formative/Summative Classroom Assessments

- Timelines, Maps, Charts, Graphic Organizers
- Unit Assessments, Chapter Assessments, Quizzes
- DBQ, Essays, Short Answer
- Accountable Talk, Debate, Oral Report, Role Playing, Think Pair, and Share
- Projects, Portfolio, Presentations, Prezi, Gallery Walks
- Homework
- Concept Mapping
- Primary and Secondary Source analysis
- Photo, Video, Political Cartoon, Radio, Song Analysis
- Create an Original Song, Film, or Poem
- Glogster to make Electronic Posters
- Tumblr to create a Blog
New Jersey Core Curriculum Content Standards 9-12

NJCCCS:

A. Civics, Government, and Human Rights
6.3.12. A.1 Develop a plan for public accountability and transparency in government related to a particular issue(s) and share the plan with appropriate government officials.

6.1.12. A.15.f Evaluate the effectiveness of United States policies and actions in supporting the economic and democratic growth of developing nations.
6.1.12. A.14.c Assess the merit and effectiveness of recent legislation in addressing the health, welfare, and citizenship status of individuals and groups.
6.1.12. A.16.b Analyze government efforts to address intellectual property rights, personal privacy, and other ethical issues in science, medicine, and business that arise from the global use of new technologies.

B. Geography, People, and the Environment
6.1.12. B.8.a Determine the impact of the expansion of agricultural production into marginal farmlands and other ineffective agricultural practices on people and the environment.

C. Economics, Innovation, and Technology
6.1.12. C.3.a Analyze how technological developments transformed the economy, created international markets, and affected the environment in New Jersey and the nation.
6.1.12. C.16.a Evaluate the economic, political, and social impact of new and emerging technologies on individuals and nations.
6.2.12.C.6.b Compare and contrast demographic trends in industrialized and developing nations, and evaluate the potential impact of these trends on the economy, political stability, and use of resources.
6.1.12. C.3.a Analyze how technological developments transformed the economy, created international markets, and affected the environment in New Jersey and the nation.

D. History, Culture, and Perspectives
English Language Arts & History/Social Studies Grades 11-12 Common Core Standards

Key Ideas and Details:
RH.9-10.3 Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.

Craft and Structure:
RH.9-10.6 Compare the point of view of two or more authors for how they treat the same or similar topics, including which details they include and emphasize in their respective accounts.

Integration of Knowledge and Ideas:
RH.9-10.7 Integrate quantitative or technical analysis (e.g., charts, research data) with qualitative analysis in print or digital text.

Text Types and Purposes:

Range of Reading and Level of Text Complexity:
RH.9-10.10 By the end of grade 10 students read and comprehends history/social studies texts in the grades 9-10 text complexity band independently and proficiently.

Production and Distribution of Writing:
WHST.9-10.6 Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.

WHST.9-10.7 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.
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<tr>
<th>NJDOE Student Learning Objective</th>
<th>Essential Questions</th>
<th>Sample Activities</th>
<th>Resources</th>
<th>Interdisciplinary Connections</th>
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</table>
| 1. Define and provide examples of genetically engineered (GE)/modified (GM) foods. | • What are genetically modified organisms?  
• How are GMOs portrayed in the media?  
• What are some examples of GM foods? | • Picture Prompt  
• Journal: What does this image tell you about GMOs? What is the point of view the image is attempting to convey? | WHO Food, Genetically Modified: [http://www.who.int/topics/food_genetically_modified/en/](http://www.who.int/topics/food_genetically_modified/en/)  
Discovery Top 10 Genetically Modified Food Products: [http://www.discovery.com/tv-shows/curiosity/topics/10-genetically-modified-food-products.htm](http://www.discovery.com/tv-shows/curiosity/topics/10-genetically-modified-food-products.htm) | ELA Essay: In your opinion, should GM ingredients be labeled on nutrition labels?  
5-paragraph persuasive essay. |
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<td></td>
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<td><strong>Lecture/Socratic Discussion GMOs:</strong> Introductory PowerPoint and lesson.</td>
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<td></td>
<td><strong>Media Search:</strong> Conduct a Google search of GMOs and take an inventory of the general consensus surrounding GMOs. Are they portrayed in a positive or negative light? Is this fair?</td>
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<tr>
<td>2. Assess data gathered on genetically modified foods to determine statistical patterns relevant to geography, culture, and access to clean water. NJCCCS: RH.9-10.7 6.1.12.B.8.a</td>
<td>• What are the main issues of concern for human health? • Are GM foods safe? • What statistical patterns have you found concerning GM foods relevant to geography, culture, and access to clean water?</td>
<td><strong>Oxford Style Debate:</strong> Are GMOs safe? The class will be split into two groups and will be assigned a side of the argument. <strong>Chart:</strong> On a world map chart the most common GM crops and foods and make correlations between geography, culture, and impact on resources.</td>
<td>National Geographic, Altered Food: <a href="http://science.nationalgeographic.com/science/article/food-how-altered.html">http://science.nationalgeographic.com/science/article/food-how-altered.html</a></td>
<td><strong>ELA Essay:</strong> Are Genetically Modified foods really as safe as we think? 5-paragraph essay.</td>
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</table>
- How do scientists alter the DNA of plants to create GMOs?  
- What crops in the United States are genetically modified?  
- What corporations are involved in growing these crops? | **Journal:** What is the purpose or motivation behind the creation of GM foods or crops?  
**Photo Essay:** Create a 10-image essay illustrating the process by which scientists genetically modify foods. Each image must contain an audio narration or explanatory paragraph.  
**Venn Diagram:** Compare and contrast classical and transgenic breeding. | **The Debate Over GMOs is About to Change:** [http://www.psmag.com/nature-and-technology/debate-over-gmos-is-about-to-change](http://www.psmag.com/nature-and-technology/debate-over-gmos-is-about-to-change)  
| 4. Utilize technological resources to generate ideas on bringing awareness to the issue of food safety, genetically modified foods, and food | - How has social media impacted public awareness of GMO issues?  
- What technological resources would be the most effective in | **News Broadcast/Podcast:** Imagine you are a reporter. Write a deliver news broadcast to bring awareness to the general public about GMOs in | **PBS-Harvest of Fear Viewpoints: Are Genetically Modified Food Safe?** [http://www.pbs.org/wgbh/harvest/viewpoints/issafe.html](http://www.pbs.org/wgbh/harvest/viewpoints/issafe.html) | **Technology:** |
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<td>shortages around the world.</td>
<td>bringing attention to GMOs?</td>
<td>our food supply. Be sure to mention the pros and cons.</td>
<td>U.S. GMO crops show mix of benefits, concerns - USDA report: <a href="http://www.reuters.com/article/2014/02/24/usda-gmo-report-idUSL1N0LT16M20140224">http://www.reuters.com/article/2014/02/24/usda-gmo-report-idUSL1N0LT16M20140224</a></td>
</tr>
<tr>
<td>NJCCCS: WHST.9-10.6 6.3.12.A.1</td>
<td>• How can you bring awareness to the issue of food safety, genetically modified foods, and food shortages around the world?</td>
<td></td>
<td>Center for Food Safety: <a href="http://www.centerforfoodsafety.org/factsheets/1974/true-food-shoppers-guide-to-avoiding-gmos">http://www.centerforfoodsafety.org/factsheets/1974/true-food-shoppers-guide-to-avoiding-gmos</a></td>
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<td>NJCCCS: RH.9-10.7 9.4.12.A.(5).2</td>
<td>• What percentage of the world’s crops is genetically modified?</td>
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<td></td>
<td>• How do gmos impact the economy, politics,</td>
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<td>Art: Create an original work of art depicting the protests of farmers who have not been allowed to save seeds. This work of art can be a painting, collage, sculpture, or sketch.</td>
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<td>• Journal: Should the Monsanto Corporation be allowed to patent life? What are the potential ethics issues associated with such a patent?</td>
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<td>• Microtheme/Debate:</td>
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<td>6. Evaluate the value and purposes of growing GM foods and its direct impact on industrialized and developing countries.</td>
<td>Can GMOs solve food shortages around the world?</td>
<td>Journal: Who is impacted more by GMOs, industrialized nations such as the US and Canada or the</td>
<td>The Spread of GM Crops: <a href="http://www.economist.com/node/15580864">http://www.economist.com/node/15580864</a></td>
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| **7.** Identify the various means of creating GM foods and name specific GE crops grown throughout the United States.  
NJCCCS: RH.9-10.6 9.4.12.H.(5).1 | • How are GMOs created?  
• Why are 90 percent of soy crops genetically modified?  
• How did Roundup Ready Soybeans impact GM crops?  
• What are the most common GM crops in the United States? |  
**Chart:** create a chart of the most common GM products in the United States and take a trip to the grocery story and investigate whether or not these ingredients are labeled on any food. What foods are labeled? Are any GM free?  
**Film Link:** [http://www.pbs.org/pov/foodinc/lesson_plan.php](http://www.pbs.org/pov/foodinc/lesson_plan.php)  
**GM Crops in the US:** [http://www.organicconsumers.org/ge/GMonMarketUS.pdf](http://www.organicconsumers.org/ge/GMonMarketUS.pdf) |  
**ELA Essay:** Why does the McDonald’s corporation impact the meat production industry and agricultural industry? |
| **8.** Compare and contrast the growth of GM crops in the United States to the growth of GM crops worldwide.  
NJCCCS: WHST.9-10.7 | • Where are the majority of GM crops grown?  
• What limitations have been placed on GM crops outside the United States? |  
**Venn Diagram:** Compare and contrast the growing a labeling of GMOs in the US and European Union.  
**Article Analysis and**  
**Worldwide increase in GM crops, report shows:** [http://www.theguardian.com/environment/2008/feb/13/gmcrops.food](http://www.theguardian.com/environment/2008/feb/13/gmcrops.food) |  
**ELA Essay:** Should governments be able to force farmers to use GM seeds if it is better for the economy? Do farmers have the right to say no? |
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</table>
• After reading this article do you think this activist is a radical or a hero? | **BBC Quick Guide: GM food:** [http://news.bbc.co.uk/2/shared/spl/hi/pop_ups/04/sci_nature/gm_food/html/1.stm](http://news.bbc.co.uk/2/shared/spl/hi/pop_ups/04/sci_nature/gm_food/html/1.stm) |                               |
| 9.                               | • Are GM crops illegal anywhere around the world?                                     | **Journal:** Why is the European Union so apprehensive about GM crops?            | **The Wall Street Journal U.S. Judge Overturns GMO Crop Curbs in Hawaii:** [http://online.wsj.com/article/s/1409009260](http://online.wsj.com/article/s/1409009260) | **ELA Essay:** Does Monsanto have a monopoly on the GM business? Does this give them too much power? |
|                                 | • What conclusions have you come to in your studies on risk practices of three countries in which legislation is already in place? |                                                                                   | **Countries & Regions With**                                             |                               |

**NJCCCS: RH.9-10.10 6.1.12.A.14.c**
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</table>
| **10.** Research what GM crops are grown in New Jersey and how those crops are being used and where they are exported. | - What GM crops are grown in New Jersey?  
- How have GM crops impacted New Jersey farmers?  
- What uses does New Jersey have for these crops and does New Jersey export these crops to other states? |  
- **Investigative Report:** Is the any literature about the cultivation of GM crops in NJ? How do consumers know if they are buying a GM product?  
- **Journal:** would you be more or less likely to buy a product containing GMOs? | **Genetically modified foods: What they are and a look at the debate:**  
http://www.nj.com/food/index.ssf/2014/05/genetically_modified_foods_wha.html  
**State Labeling Initiatives:**  
http://www.centerforfoodsafty.org/issues/976/ge-food-labeling/state-labeling-initiatives# | **ELA Letter:** Write a letter to the editor of the Herald News or Bergen Record about the rights of NJ consumers in reference to GMOs. |
| **NJCCCS: WHST.9-10.7 6.1.12.C.3.a** | | | | |
| **11.** Evaluate the growing discontent amongst farmers regarding the Intellectual Property Rights (IPRs), patenting obligations of the Agreement on Trade Related Aspects | - What are intellectual property rights?  
- How has the Monsanto Corporation impacted farming?  
- Why can farmers no longer save seeds? |  
- **Journal:** If a corporation such as Monsanto has a patent on a seed and even own crops that are accidently contaminated through natural pollination?  
- **Prezi:** Create a | **LA Times Monsanto, the court and the seeds of dissent:**  
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### Unit Vocabulary

- Seed Saving
- Monsanto
- DNA
- Biotechnology
- Gene Splicing
- intellectual property rights
- developing nation
- industrialization
- World Trade Organization
- World Health Organization
- Food Safety
## Unit Project (Choose 1)

<table>
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<tr>
<th>Research / Comparison Chart</th>
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<tr>
<td>You are responsible for researching six questions as they relate to the controversy surrounding the development and use of genetically modified foods (GMOs).</td>
</tr>
<tr>
<td>As you research each question compare the arguments for the two opposing sides of this issue: environmentalists/consumers and industry.</td>
</tr>
<tr>
<td>1. Are we tampering with nature in an unethical way? [Consider: How does genetic engineering of food crops compare to other methods used to produce better crops, how does it differ? For example, how are genetically engineered crops different from hybrid crops, or crops that have been bred for certain traits?]</td>
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<td>2. Are GM foods safe and/or healthy to eat? [Consider: Do GM foods pose a greater risk of allergic reactions? Do GM foods provide better or worse nutritional value? What is the potential for yet unknown health effects?]</td>
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<td>3. Do GMOs help or harm the environment? (focus on the wild environment, not farms) [Consider: Do GM crops have the potential to produce “super weeds”? Could there be unintentional harm to wildlife? What is the risk of gene transfer from a GM crop to a wild plant species?]</td>
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<td>4. Can the act of some farmers planting GMOs negatively affect the ability of other farmers to practice organic farming? [Consider: Will GM</td>
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| Write an essay that clearly states your position on growing GM foods on the nation’s farms. You should consider the questions above as well as the following: Is your opinion on GMOs firmly one-way or the other, or is it conditional on certain things? Under what conditions would you support the growth of genetically engineered food crops? Do you think GMOs are a necessary component of stable and sustainable agriculture, or do you see them as counter to this goal? Do you see reasons for or against growing GMOs beyond those that would affect Americans? Do genetically modified foods actually represent a societal benefit? Are these products truly necessary? Why? Do better alternatives exist? |
crops promote pesticide resistance, especially to Bt, one of the few pesticides used by organic farmers? What is the risk of genes from GM crops getting transferred into neighboring organic crops, and thus destroying their organic certification?

5. Do we need GMOs to feed the world? [Consider: Are the plants being engineered for uses in places that need it? What adaptations would be beneficial to areas with growing populations and food shortages?]

6. Should GM foods be labeled? [Consider: Do citizens have a right to have food labeled? Does labeling imply the product is harmful?]
Field Trip Ideas:

- Paterson Public Library
- William Paterson University Library
- New York Public Library
- Rutgers University Library