

## **Eighth Grade 8-4**

### **Theme Overview:**

**“Expect the Unexpected”** was selected as the theme for an eight-week interdisciplinary study of science fiction and mysteries. Students will analyze the mystery story structure and characteristics including plot development, placement of clues and red herrings, and the use of evidence in solving a mystery. They will investigate the scientific and technological basis for science fiction and examine the genre as a vehicle for social commentary. Students will use inference, observation, and the scientific method to make predictions and form conclusions. They will investigate geopolitical changes in the modern world. Students will analyze the modern era's return to tribalism and make connections between the themes of Unit 6-1 and the present world as the capstone to LEADS in middle school. The thematic unit will incorporate language arts, science and social studies standards. Students will be able to work as individuals, on teams, and in small groups.

### **DRIVING QUESTIONS**

- **What are the necessary elements of science fiction? What is the relationship between the sciences and science fiction?**
- **What qualities do scientists and detectives share? How can students emulate these qualities as they conduct their own research?**
- **How have the Internet and other communications technology, such as cell phone and instant messaging, shaped the modern world?**
- **How does the music of an era reflect the voice of the people?**
- **How do the geography and environment of an area influence the way people live and events that occur?**
- **How have unexpected events impacted local, federal, and global governments? What roles have non-governmental organizations and individuals played in affecting this change?**

**New Jersey Core Curriculum Content Standards specific to this unit:**

### **Language Arts Teachers:**

Next to certain novels in this guide are notations about the geographical location of the settings. It is appropriate and meaningful to address the geographical location on maps. For students, this will provide reinforcement for similar topics in social studies.

## Social Studies Standards

\*Note that geography is embedded across all grade levels and units. It should be addressed within the topic of study rather than in isolation. The geography standards are highlighted, but mapping the location of any standard when appropriate enhances learning for students. \*

6.1.8.B.1.e. Determine the relationship between technology innovation on urbanization and the impact of both on the environment.

6.1.8.C.1.f. Analyze how technological innovations transformed the economy, affected the status and social class of different groups of people and the outcomes that resulted.

6.1.8.D.1.h. Explain why innovation has become an integral component of American culture.

6.1.8.A.3.c. Explain why the Declaration of Independence, the United States Constitution, the Bill of Rights and the New Jersey Constitution have become a model for other nations.

6.1.8.B.3.a. Compare and contrast the impact that technological innovation has had on land use, resources and the environment in the past and present.

6.1.8.A.4.d. Evaluate the effectiveness of United States foreign policy in promoting democratic values from multiple perspectives.

6.1.8.B.4.a. Assess how unequal distribution of resources led to cooperation and conflict among different groups of people.

6.1.8.D.4.c. Analyze the evolution of the American narrative during times of conflict and peace through analysis of primary and secondary source documents.

6.1.8.D.4.f. Compare and contrast the challenges faced by individuals and groups as they fought for fundamental rights such as liberty, justice and equality for all.

6.1.8.A.5.c. Explain how individuals and non-governmental organizations can influence legislation and policies at the federal, state and local levels.

6.1.8.A.5.d. Explain how and why the United States and major international organizations work together to provide basic human rights to people in all nations.

6.1.8.B.5.a. Determine how citizens can influence local and state governments to address environmental issues and promote the use of sustainable resources.

6.1.8.C.5.a. Analyze the effectiveness of economic systems at the federal, state and local government level to provide facilities and government services.

6.1.8.C.5.b. Determine the outcome of unethical business practices on the individual and government at the local, national and global level.

6.1.8.D.5.d. Explain how the United States Constitution has been used to protect fundamental rights of American citizens and people living in the United States in modern times.

6.1.8.D.5.e. Determine actions that citizens can take to prevent incidences of discrimination, persecution and genocide, similar to the Holocaust, from happening in the United States or world.

## Science

5.2 (Science and Society): All students will develop an understanding of how people of various cultures have contributed to the advancement of science and technology, and how major discoveries and events have advanced science and technology.

### A. Cultural Contributions

1. Recognize that scientific theories:
  - develop over time,
  - depend on the contributions of many people, and
  - reflect the social and political climate of their time.
2. Know that scientists are men and women of many cultures who often work together to solve scientific and technological problems.
3. Describe how different people in different cultures have made and continue to make contributions to science and technology.

### B. Historical Perspectives

1. Describe the impact of major events and people in the history of science and technology, in conjunction with other world events.
2. Describe the development and exponential growth of scientific knowledge and technological innovations.

## Materials

**Possible core and/or authentic readings:** (geographical location noted when appropriate)  
*The Hound of the Baskervilles* by Sir Arthur Conan Doyle (C) – London/Moors

*I Am the Cheese* by Robert Cormier (A)

*Timeline* by Michael Crichton (A+) -- France

*Fahrenheit 451* by Ray Bradbury (C)

*The Island of Dr. Moreau* by H.G. Wells (C) -- island

*And Then There Were None* by Agatha Christie (A+) -- island

*A Night To Remember* by Walter Lord (A) – Ireland/Atlantic Ocean

**Guided Reading:**

*Stand Tall* by Joan Bauer (E)

*The Christopher Killers* by Alane Ferguson (E)

*Bullyville* by Francine Prose (A) – New York

*O. Henry Reader* by Barnes and Noble Classics (C) – New York

*War of the Worlds* by HG Wells (C) – London

*The Illustrated Man* by Ray Bradbury (A+)

*Journal of Patrick Seamus Flaherty* by Ellen White (A) – Vietnam

*Sherlock Holmes Short Stories* -- Barnes and Noble (C) -- London

**ILA Anthology (Prentice Hall):**

“The Adventure of the Speckled Band” pp 474-491

“Crime Solving Procedures for the Modern Detective” pp. 494-495

“What Stumped the Blue Jays” pp 453-457

”The Secret” pp. 122-126

“Shooting Stars” pp 82-83

“Mushrooms” pp. 508-509

“A Retrieved Reformation” pp .252 – 257

“Southbound on the Freeway” p. 466

“Back There” (a *Twilight Zone* play) {found in previous edition of Prentice Hall lit}

**Independent Reading/Research in social studies:**

American Reading Company’s Contemporary Issues thematic baskets

National Geographic Reading Expeditions: World Cultures (10 titles of 6-packs)

*Current Events* magazine

Asbury Park Press online –(the actual newspaper, not like app.com) at <http://www.app.com/static/nie/appnie/>

*Time* magazine

*Up Front* magazine

*USA Today* newspaper

*Wall Street Journal* newspaper

*Junior Scholastic* magazine

### **Audio- Visual**

Songs that reflect the voice of societal times.

Movies: (To be expanded)

- Across the Universe -- The music of the Beatles and the Vietnam War form the backdrop for the romance between an upper-class American girl and a poor Liverpudlian artist.

**NOTES:** The film is not meant to be shown in its entirety. Please check out two scenes in particular:

1. *I Want You / She's So Heavy* - Features the military establishment; the draft; the price of Liberty. It's an incredible starting point for discussion in terms of standards (inference); history (Youth Protest to the Viet Nam War); governmental corruption; The ultimate price of freedom (A group of soldiers are shown carrying an enormous replica of the Statue of Liberty. They struggle beneath it just as the Beatles "I Want You" segues into "She's so Heavy".)

2. *Let It Be* - Features the Race Riots of the 1960s - The scene is juxtaposed against two soldiers arriving at a suburban home. The mother of the household opens the door and falls to her knees. The scene is wordless - the obvious inference is that her son has died in the war. The two funerals are contrasted. Here's the kicker: Each of the lives lost is heartrendingly valuable in terms of home, hearth and motherhood. Yet each is of little relevance to a government gone awry and driven by greed. Standards of Inference, Compare and Contrast, come readily to mind.

The music serves as a segue to the driving question: *How does the music of an era reflect the voice of the people?*

- No Direction Home -- A chronicle of Bob Dylan's strange evolution between 1961 and 1966 from folk singer to protest singer to "voice of a generation" to rock star.
- Timeline (DVD - 2004)

National Geographic Video Clip Library

<http://www.youtube.com/user/NationalGeographic>

*UnitedStreaming* Video Clip Library

<http://streaming.discoveryeducation.com/home/aboutus.cfm>

PBS.org online video The American Experience

<http://www.pbs.org/wgbh/americanexperience/onlineFilms/>

Browse the entire American Experience series featuring over 200 films. Watch full films online, download teacher's guides, go behind the scenes, and learn more about your favorite films.

- The Presidents
- Biographies
- War & Politics
- Technology
- Popular Culture
- The American Landscape

**Teacher Resources:**

<http://www.mysterynet.com/>

<http://www.radioarchives.org/TwilightZone.htm>

<http://www.squidoo.com/minutemysteries>

<http://www.sparknotes.com/lit/hound/>

<http://www.webenglishteacher.com/doyle.html>

Robert Cormier:

<http://www.webenglishteacher.com/cormier.html>

[http://litplans.com/titles/I\\_Am\\_the\\_Cheese\\_Robert\\_Cormier.html](http://litplans.com/titles/I_Am_the_Cheese_Robert_Cormier.html)

<http://www.randomhouse.com/teachers/catalog/display.pperl?isbn=9780394834627&view=rg>

[http://www.bbchs.k12.il.us/Teacher\\_Pages/coppenbarger/cheese.html](http://www.bbchs.k12.il.us/Teacher_Pages/coppenbarger/cheese.html)

HG Wells:

<http://www.randomhouse.com/modernlibrary/library/display.pperl?isbn=9780375760969>

Christie:

<http://www.agathachristie.com/footer/help-info/im-a-teacher/> (has a free download guide)

Bradbury:

<http://www.sparknotes.com/lit/451/context.html>

Joan Bauer: author's site with discussion questions:

<http://www.joanbauer.com/StandTallThoughts.html>

## **Suggested Student Activities**

### **Theme Introduction Activities**

Students can discuss common science fiction topics such as life on other planets, cloning dinosaurs, becoming invisible. They can debate the pros and cons of any or all of the selected issues.

Two Minute Mysteries: <http://www.squidoo.com/minutemysteries> - Students can read these short mysteries and try to solve them, citing evidence to support their conclusions.

### **Core Text activities:**

1. Listen to daily read alouds.
2. Select key vocabulary and clarify word meanings.
3. Make predictions and interpret ideas through discussions and journal entries.
4. Critique and appraise decisions made by the characters, citing specific examples from the text.
5. Make inferences using textual information and providing supporting evidence

### **Short -term PBL's:**

1. Students can write a mystery story and turn it into a radio play
2. Students can write and illustrate a science fiction story
3. Students can analyze a science fiction movie such as "ET" or "Jurassic Park" and explain in an essay or other presentation which actual scientific facts or theories contribute to the success of the movie.
4. Students can create a 'character box.' The box would contain a specified number of items that would relate to a particular character. The student can present the box or can have classmates guess who is represented by the items in the box.

5. Create a music video using a song from the 1960s and photographs from 2000 (or the reverse)
6. Perform a mock Supreme Court case in which an individual's or an organization's civil rights have been infringed, Cases should involve issues of the First Amendment and the Fourteenth Amendment violations and refer to case studies from the 1900s to the 2000s.

### **Long term PBL's:**

Students can create a 'school of the future,' showing how new technology can change education. They can design the physical plant, determine the appropriate curriculum (with rationale), set the calendar, establish clubs, sports, and activities, build a model or write a student handbook.

Students can design a scavenger hunt in the school, writing clues that teams will need to follow to find a hidden object or to gather specific items.

### Possible Science PBL Ideas

1. Explain to students that they will use newspapers, magazines, and the Internet to research information about real science. They will use their information to write their own sci-fi story. Stories must include real and exaggerated science; follow a three-part plot with a conflict, climax, and resolution; and feature at least two well-developed characters. The stories must be at least two pages long and include at least one illustration. The following Web sites may be helpful for research:
  - o [www.sciencenewsforkids.org](http://www.sciencenewsforkids.org)
  - o [www.eurekalert.org/kidsnews](http://www.eurekalert.org/kidsnews)
  - o [www.sciencenews.org](http://www.sciencenews.org)

Science students will:

Learn how handwriting and analyses of paper and ink can be used to detect forgeries and help to solve crimes and mysteries

<http://school.discoveryeducation.com/lessonplans/programs/forgery/>

<http://geology.about.com/od/bookreviews/a/sherlock.htm>

<http://www.geochemsoc.org/publications/geochemicalnews/gn136jul08/forensicgeochemistry.htm>

[http://www.necrosearch.org/geology\\_01.htm](http://www.necrosearch.org/geology_01.htm)

DNA - Possible science connection

### **Possible Science PBLs:**

- Students use candy pieces and toothpicks to "build" DNA molecules and then simulate DNA replication (see websites)

- Create a classroom DNA scrapbook where articles about DNA can be collected and displayed
- Using materials such as modeling clay, Styrofoam, gumdrops, toothpicks and straws, have students build models of the DNA molecule. Each color, size, and kind of ball should represent each molecule that makes up DNA (bases, sugars, phosphates). The toothpicks and straws are used to represent bonds between molecules. Students should research using materials from the library and/or Internet to find simplified diagrams of the DNA molecule.
- Create a time line of DNA history. Have students write the events on index cards and place them on the board or wall next to your “History of DNA” banner. Connect each event to the appropriate spot on the card with yarn or string.
- Conduct a scavenger hunt to see how many items in the class can be influenced by or related to DNA in some way. Students may bring in actual items such as plants, grains, vegetables, or strand of hair. Larger items such as livestock, medical treatments, and criminals caught through the use of DNA evidence, may be represented with pictures.
- Imagine that you are a designer for a toy company that makes toy bugs/dragons, etc. The president of Bug Builders Inc., wants new kinds of the wildly popular Space Bugs, but he wants to use the parts that the company already has made. It’s your job to come up with new bugs. You have studied how traits are passed from one generation to the next. You will use this knowledge to create new combinations of traits and to build the bug parts using model “parent” bugs. Be sure to list several dominant and recessive alleles for each parent.

## **Assessments**

Informal daily observations

Writing conferences

Anecdotal notes (Guided Reading and Guided Writing)

Rubrics:

Writing rubric

Speaking rubric

Oral presentation-dramatization

Open-ended scoring rubric

Final project