

## Curriculum: BioLit (English Portion)

### Curricular Unit: Reading Standards for Literature

Instructional Unit: A. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text

#### Standard Alignments (Section 2)

GLE/CLE: N/A  
Knowledge: (CA) 2  
CCSS: 9-10.RL.1  
NETS: 4c  
Performance: 1.5

#### Unit (Section 3)

Learning Targets:

- Make logical inferences to support conclusions made from the text
- Locate and summarize evidence in the text to support analysis of the text

Instructional Strategies:

- Evaluating quotations for relevance: The teacher will provide a model of a successfully written AR. This skill will be used throughout the class
- Evolution and Banned Books project:
  - Reading choice novels – banned books
  - Use the information about the books for the project in class
  - Students will evaluate why the book was banned and answer the driving question for the project: “What information should students be allowed to learn in public schools?”
- Reading Lit sets:
  - Each book deals with an issue of human impact
  - Books are read during the ecology unit
  - Students will:
    - read and discuss their books
    - compare them to the biology content
    - complete an AR over their book
- Reading the play “The Effect of Gamma Rays on Man in the Moon Marigolds”, students will:
  - compare elements with the plant experiment they are doing in class
  - do a character study on the main characters
  - complete an AR over the play
- Reading the class novel *Unwind* – Students will read *Unwind* and complete a variety of small assignments plus an AR

<p>Assessments/Evaluations:</p> <ul style="list-style-type: none"> <li>Formative/summative: <ul style="list-style-type: none"> <li>Analytical response scoring guide</li> <li>Analytical quotes for different literary devices</li> <li>Socratic circles</li> </ul> </li> <li>Summative – Class discussion with prep sheet and teacher created scoring guide: <ul style="list-style-type: none"> <li>Main ideas</li> <li>Drawing conclusions</li> <li>Significant details</li> <li>Inferences</li> </ul> </li> </ul>
<p>Sample Assessment Questions:</p> <ul style="list-style-type: none"> <li>Find two quotations from the book that you are reading and compare those to the issues of human impact that we have learned about in class. Explain if the way human impact is described in your book is accurate or inaccurate</li> </ul>
<p>Instructional Resources/Tools:</p> <ul style="list-style-type: none"> <li>Books (e.g., <i>Unwind</i>)</li> <li>AR common scoring guide</li> </ul>
<p>Cross Curricular Connections:</p> <ul style="list-style-type: none"> <li>This is an integrated English and Biology class, all of our projects contain aspects of English and Science</li> </ul>

### **Depth of Knowledge (Section 5)**

DOK: 2
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## Curriculum: BioLit (English Portion)

### Curricular Unit: Reading Standards for Literature

Instructional Unit: B. Determine a theme or central idea of a text and analyze in detail its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text

#### Standard Alignments (Section 2)

GLE/CLE: N/A Knowledge: (CA) 2 CCSS: 9-10.RL.2 NETS: 4c Performance: 1.6
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#### Unit (Section 3)

##### Learning Targets:

- Determine the theme of a text and describe how each section contributes to the theme
- Analyze how the theme of a text is shaped and refined by specific details
- Give an objective summary of the text

##### Instructional Strategies:

- Evaluating quotations for relevance: The teacher will provide a model of a successfully written AR. This skill will be used throughout the class
- Evolution and Banned Books project:
  - Reading choice novels – banned books
  - Use the information about the books for the project in class
  - Students will evaluate why the book was banned and answer the driving question for the project: “What information should students be allowed to learn in public schools?”
- Reading Lit sets:
  - Each book deals with an issue of human impact
  - Books are read during the ecology unit
  - Students will:
    - read and discuss their books
    - compare them to the biology content
    - complete an AR over their book
- Reading the play “The Effect of Gamma Rays on Man in the Moon Marigolds”, students will:
  - compare elements with the plant experiment they are doing in class
  - do a character study on the main characters
  - complete an AR over the play

<ul style="list-style-type: none"> <li>• Reading the class novel <i>Unwind</i> – Students will read <i>Unwind</i> and complete a variety of small assignments plus an AR</li> </ul>
<p>Assessments/Evaluations:</p> <ul style="list-style-type: none"> <li>• Formative/summative: <ul style="list-style-type: none"> <li>• Periodic quizzes</li> <li>• Socratic circles</li> </ul> </li> <li>• Summative: Analytical responses</li> </ul>
<p>Sample Assessment Questions:</p> <ul style="list-style-type: none"> <li>• Identify one of the themes in the novel <i>Unwind</i>. Explain, with two specific examples from the text, how that theme relates to one of the main characters.</li> </ul>
<p>Instructional Resources/Tools:</p> <ul style="list-style-type: none"> <li>• Books</li> <li>• Analytical response common scoring guide</li> </ul>
<p>Cross Curricular Connections:</p> <ul style="list-style-type: none"> <li>• This is an integrated English and Biology class, all of our projects contain aspects of English and Science</li> </ul>

### **Depth of Knowledge (Section 5)**

DOK: 4
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## Curriculum: BioLit (English Portion)

### Curricular Unit: Reading Standards for Literature

Instructional Unit: C. Analyze how complex characters (e.g., those with multiple or conflicting motivations) develop over the course of a text, interact with other characters, and advance the plot or develop the theme

#### Standard Alignments (Section 2)

GLE/CLE: N/A  
Knowledge: (CA) 2  
CCSS: 9-10.RL.3  
NETS: 4c  
Performance: 1.6, 1.8

#### Unit (Section 3)

##### Learning Targets:

- Analyze how complex characters develop through the text
- Analyze how complex characters interact with other characters over the course of a text
- Describe how complex characters advance the plot or develop the theme

##### Instructional Strategies:

- Students will complete a variety of activities over the readings they are completing in class. These could include, but are not limited to:
  - character maps
  - character notes
  - plot time lines
  - formal discussions
  - informal discussions
  - small group discussions
- Analytical response
- Define types of characterization with examples and discussion

##### Assessments/Evaluations:

- Formative:
  - Analytical responses
  - Socratic circles
- Summative: Character maps

Sample Assessment Questions:

- On page 1 of the play, Paul Zindel gives the reader a specific quotation that links to each one of the main characters. Pick ONE of the main characters (Tillie, Beatrice OR Ruth) and first analyze how the quotation from page 1 is central to the development of that character, and how it relates to that character throughout the play. Then find two more quotations from the text that support your analysis and give the reader further detail about that character and why they act the way they do. Make sure to use the AR format, as seen in the box above

Instructional Resources/Tools:

- Books such as *Unwind*
- A play such as “The Effect of Gamma Rays on Man in the Moon Marigolds”
- AR common scoring guide
- Lit sets:
  - *Exodus*
  - *Feed*
  - *The Maze Runner*
- Computers
- Common mid term and final

Cross Curricular Connections:

- This is an integrated English and Biology class, all of our projects contain aspects of English and Science

**Depth of Knowledge (Section 5)**

DOK: 4

## Curriculum: BioLit (English Portion)

### Curricular Unit: Reading Standards for Literature

Instructional Unit: D. Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language evokes a sense of time and place; how it sets a formal or informal tone)

#### Standard Alignments (Section 2)

GLE/CLE: N/A  
Knowledge: (CA) 2,5  
CCSS: 9-10.RL.4  
NETS: 1a; 3b  
Performance: 1.5, 1.6

#### Unit (Section 3)

Learning Targets:

- **Determine the figurative and connotative meaning of words and phrases based on how they are used in a text**
- **Analyze how an author's word choice affects the meaning and tone of a text**

Instructional Strategies:

- Students will:
  - participate in discussions over literary devices and complete an activity with examples of figurative language and other literary devices
  - practice identifying tone in various passages
- The teacher will:
  - provide explanations and practice with connotative meaning
  - present examples of an author's purpose and tone. Students are asked to identify why an author may use specific words or phrases and what impact those choices have on the reading
- Online practice using context clues

Assessments/Evaluations:

- Formative: Periodic quizzes
- Identifying content specific vocabulary for biology and using it properly in presentations as identified on the presentation scoring guide

Sample Assessment Questions:

- Read the following passage and answer the question:

“When the admiral is present, he feigns obedience, but when others are gathered around him - and there are always others gathered around Roland - he takes every opportunity to cut the man down.”

Based on the sentence, what does the word “feigns” mean?

- a. To think
- b. To feel
- c. To like
- d. To fake

Instructional Resources/Tools:

- Books
- Online context clue practice

Cross Curricular Connections:

- This is an integrated English and Biology class, all of our projects contain aspects of English and Science

**Depth of Knowledge (Section 5)**

DOK: 4



## Curriculum: BioLit (English Portion)

### Curricular Unit: Reading Standards for Literature

Instructional Unit: E. Analyze how an author's choices concerning how to structure a text, order events within it (e.g., parallel plots), and manipulate time (e.g., pacing, flashbacks) create such effects as mystery, tension, or surprise

#### Standard Alignments (Section 2)

GLE/CLE: N/A Knowledge: (CA) 6 CCSS: 9-10.RL.5 NETS: 4c Performance: 2.4
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#### Unit (Section 3)

Learning Targets:
<ul style="list-style-type: none"><li>Analyze how an author's choices to structure a text, manipulate time, and order events can create mystery, suspense, or tension for the reader</li></ul>
Instructional Strategies:
<ul style="list-style-type: none"><li>Evaluate a writer's style through reading and discussion. This discussion takes place in small groups and then formally as a whole class</li><li>Scene analysis: While reading the play "The Effect of Gamma Rays on Man in the Moon Marigolds", students will work in small groups to explain and assess what the stage direction adds to the understanding of the play as a whole</li><li>After learning about literary devices, students will:<ul style="list-style-type: none"><li>use their knowledge to evaluate what they are reading</li><li>be able to explain:<ul style="list-style-type: none"><li>mood</li><li>plot sequencing</li><li>characterization</li></ul></li><li>demonstrate this knowledge in:<ul style="list-style-type: none"><li>discussions (Socratic circles)</li><li>their writing (ARs)</li></ul></li></ul></li></ul>
Assessments/Evaluations:
<ul style="list-style-type: none"><li>Formative/summative:<ul style="list-style-type: none"><li>Analytical response – assessed using a scoring guide</li><li>Periodic quizzes</li></ul></li></ul>
Sample Assessment Questions:
<ul style="list-style-type: none"><li>Read the stage directions before act I. How do those directions add to the mood of the act?</li></ul>

Instructional Resources/Tools:

- Books such as *Unwind*
- Lit sets:
  - *Feed*
  - *The Maze Runner*
  - *Exodus*
- A play such as “The Effect of Gamma Rays on Man in the Moon Marigolds”

Cross Curricular Connections:

- This is an integrated English and Biology class, all of our projects contain aspects of English and Science

**Depth of Knowledge (Section 5)**

DOK: 4

## Curriculum: BioLit (English Portion)

### Curricular Unit: Reading Standards for Literature

Instructional Unit: F. Analyze a particular point of view or cultural experience reflected in a work of literature from outside the United States, drawing on a wide reading of world literature

#### Standard Alignments (Section 2)

GLE/CLE: N/A  
Knowledge: (CA) 7  
CCSS: 9-10.RL.6  
NETS: 4c  
Performance: 1.9

#### Unit (Section 3)

##### Learning Targets:

- Analyze a point of view or cultural experience as reflected in a work from outside the United States

##### Instructional Strategies:

- In small groups, students will read and discuss various short stories
- Students will:
  - compare and contrast literary pieces from both domestic and international perspectives
  - complete an analytical response over a given topic
  - look at an author's perspective in novels and a play and evaluate what effect that perspective has on the writing
- Reflective activities to establish multiple points-of-view on the same event
- Writing assignments or small group discussions on a student's interjection of how his/her point-of-view conforms or conflicts with text
- Science Friday – students will:
  - bring a news article to class that is relevant to some branch of science
  - analyze and share the article in a group discussion

##### Assessments/Evaluations:

- Formative:
  - Reflective activities
  - Periodic quizzes
  - Article analysis work sheet
  - Analytical response scoring guide
- Formative/summative: Compare/contrast two literary pieces on the same event (tone and point-of-view)

Sample Assessment Questions:

- What does Zindel change when it comes to his life and how it is portrayed in the play?
- What effect do you think this has on the message he is trying to portray?

Instructional Resources/Tools:

- Books
- Short stories
- Nonfiction news articles

Cross Curricular Connections:

- This is an integrated English and Biology class, all of our projects contain aspects of English and Science

**Depth of Knowledge (Section 5)**

DOK: 4

Curriculum: BioLit (English Portion)

Curricular Unit: Reading Standards for Literature

Instructional Unit: G. Analyze the representation of a subject or a key scene in two different artistic mediums, including what is emphasized or absent in each treatment (e.g., Auden’s “Musée des Beaux Arts” and Breughel’s *Landscape with the Fall of Icarus*)

### Standard Alignments (Section 2)

GLE/CLE: N/A Knowledge: (CA) 5 CCSS: 9-10.RL.7 NETS: 1; 3a,b; 4d Performance: 1.5
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### Unit (Section 3)

Learning Targets:
<ul style="list-style-type: none"><li>Analyze the representation of a topic in two different mediums and how the representation shapes the overall effect of the subject or scene</li></ul>
Instructional Strategies:
<ul style="list-style-type: none"><li>Students will:<ul style="list-style-type: none"><li>compare text reading to that of a film presentation through:<ul style="list-style-type: none"><li>participation in a group discussion</li><li>completion of a Venn diagram</li></ul></li><li>find multi-media to associate with a text</li><li>discuss a medium’s reasoning for interpretation while in small groups</li><li>synthesize aspects of each topic during formal and informal discussions</li><li>read the short story “Harrison Bergeron” and compare/ contrast it to the short film</li></ul></li></ul>
Assessments/Evaluations:
<ul style="list-style-type: none"><li>Formative/summative:<ul style="list-style-type: none"><li>Comparison/contrast of media writing</li><li>Comparison of reading to a film</li><li>Venn diagram with checklist</li><li>Various projects with scoring guides – assessed using a (presentation) scoring guide</li></ul></li></ul>
Sample Assessment Questions:
<ul style="list-style-type: none"><li>How do the pictures provided with the text relate to the story?</li></ul>
Instructional Resources/Tools:
<ul style="list-style-type: none"><li>Books</li><li>Computers</li><li>Internet</li></ul>












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Cross Curricular Connections:

- This is an integrated English and Biology class, all of our projects contain aspects of English and Science

**Depth of Knowledge (Section 5)**

DOK: 4

## Curriculum: BioLit (English Portion)

### Curricular Unit: Reading Standards for Literature

Instructional Unit: H. Analyze how an author draws on and transforms source material in a specific work (e.g., how Shakespeare treats a theme or topic from Ovid or the Bible or how a later author draws on a play by Shakespeare)

#### Standard Alignments (Section 2)

GLE/CLE: N/A

Knowledge: (CA) 2

CCSS: 9-10.RL.9

NETS: 4a

Performance: 1.9

#### Unit (Section 3)

Learning Targets:

- Analyze how an author draws on and transforms source material such as a theme or topic from a specific work (allusion)

Instructional Strategies:

- The teacher will model and:
  - discuss examples of allusion
  - then the students will identify and explain examples of allusions from material they are reading in class
- Students will:
  - complete related activities based on the function of allusion
  - create a mock grammar and literary term workbook

Assessments/Evaluations:

- Formative/summative:
  - Group project: grammar and literary terms book
  - Periodic quizzes
  - Practical application

Sample Assessment Questions:

- Read the following passage:  
*"So I looked. Silly as it sounds now, I looked. By comparison, going after the grail would have made more sense. I won't talk about it. It's too embarrassing."*  
The reference to "the grail" is what kind of literary device?
  - Metaphor
  - Allusion
  - Simile
  - Hyperbole

Instructional Resources/Tools:
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| <ul style="list-style-type: none"><li>• Books</li><li>• Computers with Google Drive</li></ul> |
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Cross Curricular Connections:
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- |   |
|---|
| <ul style="list-style-type: none"><li>• This is an integrated English and Biology class, all of our projects contain aspects of English and Science</li></ul> |
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### **Depth of Knowledge (Section 5)**

DOK: 4
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## Curriculum: BioLit (English Portion)

### Curricular Unit: Reading Standards for Literature

Instructional Unit: I. By the end of grade 9, read and comprehend literature, including stories, dramas, and poems, in the grades 9–10 text complexity band proficiently, with scaffolding as needed at the high end of the range. By the end of grade 10, read and comprehend literature, including stories, dramas, and poems, at the high end of the grades 9–10 text complexity band independently and proficiently

### Standard Alignments (Section 2)

GLE/CLE: N/A Knowledge: (CA) 2 CCSS: 9-10.RL.10 NETS: 4a Performance: 1.5
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### Unit (Section 3)

#### Learning Targets:

- Read and comprehend literature at the tenth grade level reading literature appropriate to my grade level and skill

#### Instructional Strategies:

- Evaluating quotations for relevance: The teacher will provide a model of a successfully written analytical response. This skill will be used throughout the class
- Evolution and Banned Books project – students will:
  - read choice novels – banned books
  - use the information about the books for the project in class
  - evaluate why the book was banned and answer the driving question for the project: “What information should students be allowed to learn in public schools?”
- Reading Lit sets:
  - Each book deals with an issue of human impact
  - Books are read during the ecology unit
  - Students will:
    - read and discuss their books
    - compare them to the biology content
    - complete an analytical response over their book
- Reading the play “The Effect of Gamma Rays on Man in the Moon Marigolds”, students will:
  - compare elements with the plant experiment they are doing in class
  - do a character study on the main characters
  - complete an AR over the play
- Reading the class novel *Unwind* – Students will read *Unwind* and complete a variety of small assignments plus an AR

<p>Assessments/Evaluations:</p> <ul style="list-style-type: none"> <li>Formative/summative: <ul style="list-style-type: none"> <li>Periodic comprehension quizzes</li> <li>Paraphrasing passages</li> <li>Vocabulary quizzes</li> </ul> </li> <li>Summative – End of book: <ul style="list-style-type: none"> <li>projects – assessed using a scoring guide</li> <li>presentations – assessed using presentation scoring guides</li> </ul> </li> </ul>
<p>Sample Assessment Questions:</p> <ul style="list-style-type: none"> <li>Write out two quotations from the book <i>Unwind</i> that bring up an ethical issue dealing with life and what life means.</li> <li>Explain why you picked those quotations.</li> </ul>
<p>Instructional Resources/Tools:</p> <ul style="list-style-type: none"> <li>Computers</li> <li>Internet</li> <li>Books such as <i>Unwind</i></li> <li>Lit sets: <ul style="list-style-type: none"> <li><i>Feed</i></li> <li><i>Exodus</i></li> <li><i>The Maze Runner</i></li> </ul> </li> <li>Short stories and articles</li> </ul>
<p>Cross Curricular Connections:</p> <ul style="list-style-type: none"> <li>This is an integrated English and Biology class, all of our projects contain aspects of English and Science</li> </ul>

### **Depth of Knowledge (Section 5)**

DOK: 1
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Curriculum: BioLit (English Portion)

Curricular Unit: Reading Standards for Informational Text

Instructional Unit: J. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text

### **Standard Alignments (Section 2)**

GLE/CLE: N/A Knowledge: (CA) 3,4,6 CCSS: 9-10.RI.1 NETS: 3a-c; 4c; 5a; 6a Performance: 1.2, 1.5, 1.8, 3.5, 3.6, 4.1
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### **Unit (Section 3)**

Learning Targets:
<ul style="list-style-type: none"><li>• Locate and summarize evidence in the text to support analysis of the text</li><li>• Make logical inferences to support conclusions made from the text</li></ul>
Instructional Strategies:
<ul style="list-style-type: none"><li>• Students will:<ul style="list-style-type: none"><li>• complete a graphic organizer</li><li>• determine the main idea and differentiate from supporting details</li><li>• complete an analytical response</li><li>• write:<ul style="list-style-type: none"><li>• a persuasive research paper addressing an ethical issue related to the study of genetics. Possible topics include:<ul style="list-style-type: none"><li>• genetically modified food</li><li>• designer babies</li><li>• human genome sequencing</li><li>• prenatal testing</li></ul></li><li>• an informative research paper over a type of cancer, addressing the:<ul style="list-style-type: none"><li>• causes</li><li>• effects on the body</li><li>• prevention and treatment</li></ul></li></ul></li><li>• complete an outline for all major writing assignments</li></ul></li></ul>

<p>Assessments/Evaluations:</p> <ul style="list-style-type: none"> <li>• Formative: <ul style="list-style-type: none"> <li>• Analytical response with a scoring guide</li> <li>• Source evaluation</li> </ul> </li> <li>• Summative – assessed using scoring guides: <ul style="list-style-type: none"> <li>• Research paper</li> <li>• Informative paper</li> <li>• Persuasive paper and/or projects</li> <li>• Oral presentation scoring guide</li> </ul> </li> </ul>
<p>Sample Assessment Questions:</p> <ul style="list-style-type: none"> <li>• Write a persuasive research paper, advocating for either the pro or con side of the following topic: The benefits of genetically modified food outweigh the harms. Use at least three creditable sources to affirm the side you are advocating for.</li> </ul>
<p>Instructional Resources/Tools:</p> <ul style="list-style-type: none"> <li>• Google Classroom</li> <li>• The Internet</li> <li>• Computers</li> <li>• Library research databases</li> <li>• School library media center</li> </ul>
<p>Cross Curricular Connections:</p> <ul style="list-style-type: none"> <li>• This is an integrated English and Biology class, all of our projects contain aspects of English and Science</li> </ul>

### **Depth of Knowledge (Section 5)**

DOK: 2
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## Curriculum: BioLit (English Portion)

### Curricular Unit: Reading Standards for Informational Text

Instructional Unit: K. Determine a central idea of a text and analyze its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text

#### Standard Alignments (Section 2)

GLE/CLE: N/A Knowledge: (CA) 1,3-6 CCSS: 9-10.RI.2 NETS: 4c Performance: 1.2, 1.4, 1.6, 1.8
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#### Unit (Section 3)

Learning Targets:
<ul style="list-style-type: none"><li>• <b>Determine the central idea of a text and analyze its development</b></li><li>• Analyze how the central idea of a text is shaped and refined by specific details</li><li>• Give an objective summary of the text</li></ul>
Instructional Strategies:
<ul style="list-style-type: none"><li>• The teacher will model an analytical response</li><li>• Students will:<ul style="list-style-type: none"><li>• read biology content-specific articles</li><li>• complete activities to practice how to summarize versus how to paraphrase</li></ul></li><li>• One Friday per month is called “Science Friday.” On these days students:<ul style="list-style-type: none"><li>• are required to bring an article related to any branch of science to class</li><li>• evaluate the main ideas of the article and then share them with the class</li></ul></li></ul>
Assessments/Evaluations:
<ul style="list-style-type: none"><li>• Formative:<ul style="list-style-type: none"><li>• Reading questions over articles</li><li>• Paraphrasing writing activity</li><li>• Science Friday article analysis paper</li><li>• One sentence exit pass</li></ul></li><li>• Formative/summative: Analytical response with a scoring guide</li></ul>
Sample Assessment Questions:
<ul style="list-style-type: none"><li>• Explain the concepts of evolution that are explained in the article about the peppered moths</li></ul>

Instructional Resources/Tools:

- Articles
- Edmodo
- Internet news outlets, specifically news outlets such as:
  - NPR
  - CNN
  - BBC
  - New York Times
  - other major news outlets
- Computers

Cross Curricular Connections:

- This is an integrated English and Biology class, all of our projects contain aspects of English and Science

**Depth of Knowledge (Section 5)**

DOK: 2

## Curriculum: BioLit (English Portion)

### Curricular Unit: Reading Standards for Informational Text

Instructional Unit: L. Analyze how the author unfolds an analysis or series of ideas or events, including the order in which the points are made, how they are introduced and developed, and the connections that are drawn between them

#### Standard Alignments (Section 2)

GLE/CLE: N/A Knowledge: (CA) 1,3-6 CCSS: 9-10.RI.3 NETS: 1c Performance: 1.5, 1.6, 1.8
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#### Unit (Section 3)

##### Learning Targets:

- Analyze how the author introduces and develops a series of ideas and events including the order of the events and how this contributes to the overall purpose of the text
- Analyze the connections the author draws between each point and how these contribute to the overall purpose of the text

##### Instructional Strategies:

- The teacher will model sequencing and development of events
- Students will:
  - complete a mind map
  - read biology content specific articles

##### Assessments/Evaluations:

- Formative/summative: Graphic organizer assessment
- Article questions
- Common final and mid-term test
- Lit set quizzes

##### Sample Assessment Questions:

- Find and assess an article that deals with an issue of human impact as discussed in your fiction book.

Instructional Resources/Tools:

- Books such as *Unwind*
- Lit sets
- *Feed*
- *Exodus*
- *The Maze Runner*
- Internet
- Computers
- Articles

Cross Curricular Connections:

- This is an integrated English and Biology class, all of our projects contain aspects of English and Science

**Depth of Knowledge (Section 5)**

DOK: 3



## Curriculum: BioLit (English Portion)

### Curricular Unit: Reading Standards for Informational Text

Instructional Unit: M. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language of a court opinion differs from that of a newspaper)

#### Standard Alignments (Section 2)

GLE/CLE: N/A Knowledge: (CA) 1,3,6,7 CCSS: 9-10.RI.4 NETS: 4c Performance: 3.3, 3.4
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#### Unit (Section 3)

Learning Targets:
<ul style="list-style-type: none"><li>• <b>Determine the meanings of words and phrases as they are used in a text</b></li><li>• <b>Analyze and understand how an author's specific word choice affects the meaning and tone of a text</b></li></ul>
Instructional Strategies:
<ul style="list-style-type: none"><li>• Vocabulary overview guide</li><li>• Students will:<ul style="list-style-type: none"><li>• read biology content specific texts and articles and define terms based on the root words</li><li>• conduct research over a type of cancer</li><li>• write down all unfamiliar words and define them based on root words studied in class</li></ul></li><li>• Quack Vocab videos – Students will:<ul style="list-style-type: none"><li>• watch 5 videos through the course of the class – each video teaches the students 20 ACT style words</li><li>• memorize the words and definitions, then take a quiz</li></ul></li></ul>
Assessments/Evaluations:
<ul style="list-style-type: none"><li>• Formative/summative:<ul style="list-style-type: none"><li>• Periodic quizzes</li><li>• Quack vocab quizzes</li></ul></li></ul>
Sample Assessment Questions:
<ul style="list-style-type: none"><li>• Define all unfamiliar terms in relation to your cancer research project.</li></ul>

Instructional Resources/Tools:

- Computers
- Internet
- Edmodo
- Dictionary
- Quack vocab videos

Cross Curricular Connections:

- This is an integrated English and Biology class, all of our projects contain aspects of English and Science

**Depth of Knowledge (Section 5)**

DOK: 2

## Curriculum: BioLit (English Portion)

### Curricular Unit: Reading Standards for Informational Text

Instructional Unit: N. Analyze in detail how an author's ideas or claims are developed and refined by particular sentences, paragraphs, or larger portions of a text (e.g., a section or chapter)

#### Standard Alignments (Section 2)

GLE/CLE: N/A

Knowledge: (CA) 1,3,6,7

CCSS: 9-10.RI.5

NETS: 4a

Performance: 1.2, 1.5, 1.6

#### Unit (Section 3)

Learning Targets:

- Analyze how an author's ideas or claims are developed or refined by specific parts of the text

Instructional Strategies:

- Students will complete a:
  - persuasive:
    - analytical response
    - research paper on an ethical issue relating to genetics and genetic testing. Students will need to evaluate claims and reasoning provided in their resources
  - relevant persuasive project such as an in-class debate – students will need to evaluate claims and reasoning though the course of the debate

Assessments/Evaluations:

- Scoring guides:
  - Analytical response
  - Persuasive research
  - Relevant Persuasive projects

Sample Assessment Questions:

- Identify two claims made by the author of your chosen article

Instructional Resources/Tools:

- Library databases
- Internet
- Computer
- Edmodo

Cross Curricular Connections:

- This is an integrated English and Biology class, all of our projects contain aspects of English and Science

**Depth of Knowledge (Section 5)**

DOK: 3

Curriculum: BioLit (English Portion)

Curricular Unit: Reading Standards for Informational Text

Instructional Unit: O. Analyze a particular point of view or cultural experience reflected in a work of literature from outside the United States, drawing on a wide reading of world literature

### Standard Alignments (Section 2)

GLE/CLE: N/A Knowledge: (CA) 1,3,6,7 CCSS: 9-10.RI.6 NETS: 1a; 4d Performance: 1.2, 1.5, 1.9
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### Unit (Section 3)

Learning Targets:
<ul style="list-style-type: none"><li>• <b>Determine the author's overall purpose</b></li><li>• <b>Analyze how an author uses rhetorical strategies to advance that purpose</b></li></ul>
Instructional Strategies:
<ul style="list-style-type: none"><li>• Students will:<ul style="list-style-type: none"><li>• identify and correctly use persuasive devices</li><li>• practice using persuasive devices</li><li>• complete a persuasive research paper on an ethical issue related to the study of genetics</li><li>• read a work of fiction and determine how the main character's and author's perspectives shape the story</li></ul></li></ul>
Assessments/Evaluations:
<ul style="list-style-type: none"><li>• Persuasive research paper scoring guide</li><li>• Summative:<ul style="list-style-type: none"><li>• Exit slips</li><li>• Discussion over books</li></ul></li></ul>
Sample Assessment Questions:
<ul style="list-style-type: none"><li>• How are issues related to antibiotic resistance treated in America?</li><li>• How are those issues treated in other countries?</li></ul>
Instructional Resources/Tools:
<ul style="list-style-type: none"><li>• Articles</li><li>• Computers</li><li>• Library databases</li><li>• Common scoring guides</li><li>• Internet</li></ul>

Cross Curricular Connections:

- This is an integrated English and Biology class, all of our projects contain aspects of English and Science

**Depth of Knowledge (Section 5)**

DOK: 2

Curriculum: BioLit (English Portion)

Curricular Unit: Reading Standards for Informational Text

Instructional Unit: P. Analyze various accounts of a subject told in different mediums (e.g., a person's life story in both print and multimedia), determining which details are emphasized in each account

**Standard Alignments (Section 2)**

GLE/CLE: N/A

Knowledge: (CA) 1,3,5-7

CCSS: 9-10.RI.7

NETS: 1a-c; 2b,c; 3-6

Performance: 1.2, 1.4, 1.5, 1.9

**Unit (Section 3)**

Learning Targets:

- Analyze how various accounts of a subject are told in two different mediums and how the details emphasized in both affect the overall message

Instructional Strategies:

- Discussion of comparison between the short story "Harrison Bergeron" and the short film version of the story
- Audio recordings
- Videos
- Synthesize aspects of each topic

Assessments/Evaluations:

- Multi-media presentations
- Various projects
- Venn diagrams

Sample Assessment Questions:

- Presentation scoring guide

Instructional Resources/Tools:

- Videos – 2081
- Articles
- Internet
- Edmodo

Cross Curricular Connections:

- This is an integrated English and Biology class, all of our projects contain aspects of English and Science

## **Depth of Knowledge (Section 5)**

DOK: 4
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Curriculum: BioLit (English Portion)

Curricular Unit: Reading Standards for Informational Text

Instructional Unit: Q. Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning

### Standard Alignments (Section 2)

GLE/CLE: N/A

Knowledge: (CA) 1,3-6

CCSS: 9-10.RI.8

NETS: 3; 5

Performance: 1.1, 1.2, 2.1, 2.2, 2.5, 2.6, 4.2

### Unit (Section 3)

Learning Targets:

- **Delineate (outline) and evaluate the argument and specific claims in a text**
- **Assess whether an author's reasoning is valid and whether there is enough relevant evidence to support the claims made**
- **Identify the false statements and fallacious reasoning**

Instructional Strategies:

- The teacher will:
  - present notes on persuasive devices
  - provide analysis of examples
- Students will:
  - complete graphic organizers
  - take part in an in-class debate over an ethical issue related to genetics
  - create a pre-written debate case which identifies claims and supports them with valid:
    - reasoning
    - research
    - analysis

Assessments/Evaluations:

- Formative:
  - Misconception checks
  - Graphic organizers
  - Written debate case
- Summative: Presentations

Sample Assessment Questions:

- Provide two claims from your research that back up the argument outlined in your debate case.
- Support your argument as it is attacked by the opposing side.

Instructional Resources/Tools:

- Library databases
- Internet
- Computers
- Edmodo

Cross Curricular Connections:

- This is an integrated English and Biology class, all of our projects contain aspects of English and Science

**Depth of Knowledge (Section 5)**

DOK: 3

## Curriculum: BioLit (English Portion)

### Curricular Unit: Reading Standards for Informational Text

Instructional Unit: R. Analyze seminal U.S. documents of historical and literary significance (e.g., Washington’s Farewell Address, the Gettysburg Address, Roosevelt’s Four Freedoms speech, King’s “Letter from Birmingham Jail”), including how they address related themes and concepts

#### Standard Alignments (Section 2)

GLE/CLE: N/A Knowledge: (CA) 1,3,4,6,7 CCSS: 9-10.RI.9 NETS: 3; 5 Performance: 1.6, 1.9, 4.2
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#### Unit (Section 3)

Learning Targets:
<ul style="list-style-type: none"><li>Analyze how seminal US historical and literary documents address a similar theme or concept</li></ul>
Instructional Strategies:
<ul style="list-style-type: none"><li>Discuss historical speeches and documents</li><li>Analyze historical context</li><li>Read and analyze how current bills and legislation influence education, specifically on the issue of banned books and the teaching of evolution in public schools</li></ul>
Assessments/Evaluations:
<ul style="list-style-type: none"><li>Formative: Evaluate misconceptions in the media</li><li>Formative/summative: Periodic quizzes</li><li>Summative: Presentation over the misconceptions related to the teaching of evolution and banned books in public schools</li></ul>
Sample Assessment Questions:
<ul style="list-style-type: none"><li>How does HB112 affect students in Missouri public schools?</li></ul>
Instructional Resources/Tools:
<ul style="list-style-type: none"><li>The Internet</li><li>Computers</li></ul>
Cross Curricular Connections:
<ul style="list-style-type: none"><li>This is an integrated English and Biology class, all of our projects contain aspects of English and Science</li><li>Social Studies: Examining seminal US historical and literary documents</li></ul>

## **Depth of Knowledge (Section 5)**

DOK: 4
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## Curriculum: BioLit (English Portion)

### Curricular Unit: Reading Standards for Informational Text

Instructional Unit: S. By the end of grade 9, read and comprehend literary nonfiction in the grades 9–10 text complexity band proficiently, with scaffolding as needed at the high end of the range. By the end of grade 10, read and comprehend literary nonfiction at the high end of the grades 9–10 text complexity band independently and proficiently

#### Standard Alignments (Section 2)

GLE/CLE: N/A Knowledge: (CA) 1,3,4,6,7 CCSS: 9-10.RI.10 NETS: 2b; 3c,d; 4c,d Performance: 1.5, 1.6, 2.2
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#### Unit (Section 3)

Learning Targets:
<ul style="list-style-type: none"><li>• Read and comprehend informational text appropriate to grade 10</li></ul>
Instructional Strategies:
<ul style="list-style-type: none"><li>• Students will read:<ul style="list-style-type: none"><li>• and discuss current events relevant to scientific concepts during Science Friday discussions</li><li>• research relevant to their chosen topics</li><li>• biology content specific articles</li></ul></li><li>• The teacher will:<ul style="list-style-type: none"><li>• lead a discussion</li><li>• explain difficult concepts presented in fiction and nonfiction reading</li></ul></li></ul>
Assessments/Evaluations:
<ul style="list-style-type: none"><li>• Question/answer sessions</li><li>• Written summaries</li><li>• Presentation</li></ul>
Sample Assessment Questions:
<ul style="list-style-type: none"><li>• Do the benefits of GMO foods outweigh the harms?</li></ul>
Instructional Resources/Tools:
<ul style="list-style-type: none"><li>• Library media center databases</li><li>• The Internet</li><li>• Computers</li><li>• Presentation:<ul style="list-style-type: none"><li>• common scoring guide</li><li>• speaking common scoring guide</li></ul></li></ul>

Cross Curricular Connections:

- This is an integrated English and Biology class, all of our projects contain aspects of English and Science

**Depth of Knowledge (Section 5)**

DOK: 4

Curricular Unit: Writing Standards

Instructional Unit: T. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence

- a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among claim(s), counterclaims, reasons, and evidence
- b. Develop claim(s) and counterclaims fairly, supplying evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level and concerns
- c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims
- d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing
- e. Provide a concluding statement or section that follows from and supports the argument presented

**Standard Alignments (Section 2)**

GLE/CLE: N/A

Knowledge: (CA) 1,3,4,6

CCSS: 9-10.W.1a-e

NETS: 3; 4a-c; 5a,c,d; 6

Performance: 1.2, 1.4, 1.7, 1.8, 2.1-2.3, 2.7, 3.1-3.8, 4.1, 4.4, 4.5

**Unit (Section 3)**

Learning Targets:

- **Write arguments to support claims of substantive topics or texts, using valid reasoning, relevant and sufficient evidence through the following**
  - **a. Introduce precise claims, distinguish claims from opposing claims, and create an organization that establishes clear relationships**
  - **b. Develop claims/counterclaims fairly, supplying evidence for and pointing out strengths and limitations of both sides**
  - **c. Use words, phrases, and clauses that will connect and clarify relationships between the reasons and claims, reasons and evidence, and reasons and opposing claims**

<ul style="list-style-type: none"> <li>• <b>d. Establish and maintain a formal style and objective tone by following the conventions of grammar</b></li> <li>• <b>e. Write a conclusion that supports the argument</b></li> </ul>
<p>Instructional Strategies:</p> <ul style="list-style-type: none"> <li>• Students will complete a persuasive essay – writing process: <ul style="list-style-type: none"> <li>• Brainstorming/invention</li> <li>• First draft</li> <li>• Peer/teacher edit with feedback for the persuasive essay</li> <li>• These will be specifically geared to making a persuasive argument</li> </ul> </li> <li>• The teacher will provide students with guided editing practice, examples of persuasive techniques in the form of notes and sample persuasive papers</li> </ul>
<p>Assessments/Evaluations:</p> <ul style="list-style-type: none"> <li>• Persuasive Research Essay final draft – a common scoring guide will be used to assess the assignments</li> <li>• Quiz over persuasive techniques</li> <li>• Summative: Edit sheet</li> </ul>
<p>Sample Assessment Questions:</p> <ul style="list-style-type: none"> <li>• Should parents be able to genetically alter their babies?</li> </ul>
<p>Instructional Resources/Tools:</p> <ul style="list-style-type: none"> <li>• MLA style guide</li> <li>• Computers</li> <li>• Internet</li> <li>• Library media center databases</li> </ul>
<p>Cross Curricular Connections:</p> <ul style="list-style-type: none"> <li>• This is an integrated English and Biology class, all of our projects contain aspects of English and Science</li> </ul>

### **Depth of Knowledge (Section 5)**

DOK: 4
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## Curriculum: BioLit (English Portion)

### Curricular Unit: U. Writing Standards

Instructional Unit: Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content

- a. Introduce a topic; organize complex ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension
- b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic
- c. Use appropriate and varied transitions to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts
- d. Use precise language and domain-specific vocabulary to manage the complexity of the topic
- e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing
- f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic)

### Standard Alignments (Section 2)

GLE/CLE: N/A Knowledge: (CA) 1,4 CCSS: 9-10.W.2a-f NETS: 1b; 2a,b; 3a-c, 4a,b; 5a,c; 6a-c Performance: 1.1, 1.2, 1.6, 1.8, 1.10, 2.1, 2.2, 2.7, 3.1, 4.4, 4.5
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### Unit (Section 3)

Learning Targets:

- **Write an informative piece which examines and conveys complex ideas/information through effective collection, organization, and analysis of content through the following:**
  - a. **Introduce a topic and organize complex ideas, concepts, and information to make important connections and distinctions-including formatting, graphics, and multimedia when helpful to comprehension**
  - b. **Use well-chosen and relevant facts, definitions, details, and quotations, or other examples to develop the topic**
  - c. **Use appropriate transitions to create cohesion and clarify relationships**
  - d. **Use precise language and subject-specific vocabulary to manage the complexity of the topic**

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<p><b>e. Establish and maintain a formal style and objective tone</b></p> <p><b>f. Write a conclusion that supports the information presented</b></p>
<p>Instructional Strategies:</p> <ul style="list-style-type: none"> <li>• Cancer informative essay:             <ul style="list-style-type: none"> <li>• Students will complete:                 <ul style="list-style-type: none"> <li>• an informative essay over a type of cancer. The paper will address the:                     <ul style="list-style-type: none"> <li>• effects of the type of cancer on the body</li> <li>• treatment options</li> <li>• possible ways to avoid the cancer</li> </ul> </li> <li>• Knows and Needs to Know list about cancer in general</li> <li>• First draft</li> </ul> </li> <li>• Peer/teacher edit with feedback for the informative essay</li> <li>• The teacher will provide:                 <ul style="list-style-type: none"> <li>• sample papers</li> <li>• editing sheets</li> <li>• practice on correct MLA formatting</li> </ul> </li> </ul> </li> </ul>
<p>Assessments/Evaluations:</p> <ul style="list-style-type: none"> <li>• The Informative Essay final draft – a common scoring guide will be used to assess the assignments</li> <li>• Editing sheets</li> <li>• Notes over MLA format</li> </ul>
<p>Sample Assessment Questions:</p> <ul style="list-style-type: none"> <li>• Find and explain at least one chart or graph that explains the problem outlined in your essay</li> </ul>
<p>Instructional Resources/Tools:</p> <ul style="list-style-type: none"> <li>• Computers</li> <li>• MLA guide</li> <li>• Library databases</li> <li>• The Internet</li> </ul>
<p>Cross Curricular Connections:</p> <ul style="list-style-type: none"> <li>• This is an integrated English and Biology class, all of our projects contain aspects of English and Science</li> </ul>

### **Depth of Knowledge (Section 5)**

DOK: 4
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## Curriculum: BioLit (English Portion)

### Curricular Unit: Writing Standards

Instructional Unit: V. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences

- a. Engage and orient the reader by setting out a problem, situation, or observation, establishing one or multiple point(s) of view, and introducing a narrator and/or characters; create a smooth progression of experiences or events
- b. Use narrative techniques, such as dialogue, pacing, description, reflection, and multiple plot lines, to develop experiences, events, and/or characters
- c. Use a variety of techniques to sequence events so that they build on one another to create a coherent whole
- d. Use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, setting, and/or characters
- e. Provide a conclusion that follows from and reflects on what is experienced, observed, or resolved over the course of the narrative

### Standard Alignments (Section 2)

GLE/CLE: N/A Knowledge: (CA) 1,4 CCSS: 9-10.W.3a-e NETS: 1a,b; 2a; 4b; 5a,c; 6a-c Performance: 1.4, 2.1, 2.2, 4.4, 4.5
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### Unit (Section 3)

Learning Targets:

- Write a narrative to develop real or imagined events, using effective technique, details, and well-structured sequence by the following:
  - a. Set out a problem or situation, establish point of view, introduce a narrator and/or characters, and create a smooth progression of event
  - b. Use dialogue, pacing, description, reflection, and multiple plot lines to develop experiences, events and/or character
  - c. Use a variety of techniques, such as flashback and rising action to sequence events so that they build of one another to create a coherent whole
  - d. Use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, setting, and/or characters

<ul style="list-style-type: none"> <li>e. Write a conclusion that reflects on what is experienced, observed, or resolved over the course of the narrative</li> </ul>
<p>Instructional Strategies:</p> <ul style="list-style-type: none"> <li>Students will complete a narrative essay during their ecology project. This paper will tell the story of the creation myth for the planet that the group created for their project. Strategies will include: <ul style="list-style-type: none"> <li>brainstorming/invention</li> <li>creating a first draft</li> <li>peer/teacher editing with feedback for a narrative essay – these will be geared specifically at description and sensory details</li> </ul> </li> </ul>
<p>Assessments/Evaluations:</p> <ul style="list-style-type: none"> <li>Narrative Essay final draft – a common scoring guide will be used to assess the assignments</li> <li>Edit sheets</li> <li>Sample paper with analysis questions</li> </ul>
<p>Sample Assessment Questions:</p> <ul style="list-style-type: none"> <li>Tell the story of how your planet came to be.</li> </ul>
<p>Instructional Resources/Tools:</p> <ul style="list-style-type: none"> <li>Computers for word processing</li> <li>Internet</li> <li>Sample narrative paper</li> <li>Edit sheets</li> </ul>
<p>Cross Curricular Connections:</p> <ul style="list-style-type: none"> <li>This is an integrated English and Biology class, all of our projects contain aspects of English and Science</li> </ul>

### **Depth of Knowledge (Section 5)**

DOK: 4
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## Curriculum: BioLit (English Portion)

### Curricular Unit: Writing Standards

Instructional Unit: W. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above)

#### Standard Alignments (Section 2)

GLE/CLE: N/A Knowledge: (CA) 1,4 CCSS: 9-10.W.4 NETS: 1a,b; 2a,b,d; 3; 4-6 Performance: 1.1, 1.2, 1.4, 1.6-1.8, 1.10, 2.1-2.4, 2.6, 2.7, 3.1-3.6, 4.1, 4.4, 4.5
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#### Unit (Section 3)

Learning Targets:
<ul style="list-style-type: none"><li>• <b>Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience</b></li></ul>
Instructional Strategies:
<ul style="list-style-type: none"><li>• Students will participate in the essay writing process:<ul style="list-style-type: none"><li>• Brainstorming/invention</li><li>• First draft</li><li>• Peer/teacher edit with feedback for all styles of essay</li><li>• The focus will be the students' ability to follow the format of a given writing assignment</li></ul></li><li>• Students will complete various analytical responses related to different topics discussed in class</li><li>• The teacher will provide examples of well-written student work and give feedback to student work in order to help them improve</li></ul>
Assessments/Evaluations:
<ul style="list-style-type: none"><li>• Analytical response scoring guide</li><li>• Common scoring guide will be used to assess the assignments</li></ul>
Sample Assessment Questions:
<ul style="list-style-type: none"><li>• Using analytical response format, identify a major theme in <i>Unwind</i> and explain how it developed through the course of the book</li></ul>

Instructional Resources/Tools:

- Computers
- Internet
- Articles
- Books
- Library databases

Cross Curricular Connections:

- This is an integrated English and Biology class, all of our projects contain aspects of English and Science

**Depth of Knowledge (Section 5)**

DOK: 4

## Curriculum: BioLit (English Portion)

### Curricular Unit: Writing Standards

Instructional Unit: X. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. (Editing for conventions should demonstrate command of Language standards 1–3 up to and including grades 9–10 on page 54)

#### Standard Alignments (Section 2)

GLE/CLE: N/A Knowledge: (CA) 1,3,4,7 CCSS: 9-10.W.5 NETS: 1a,b; 2a,b,d; 3; 4-6 Performance: 1.1-1.4, 1.6, 1.7, 1.10, 2.1-2.3, 2.7, 3.1-3.3, 3.6, 4.3, 4.5
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#### Unit (Section 3)

##### Learning Targets:

- Develop and strengthen writing by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience

##### Instructional Strategies:

- Students will:
  - participate in the essay writing process:
    - Brainstorming/invention
    - First draft
    - Peer/teacher edit with feedback for all styles of essay
    - The focus will be students' ability to follow the format of a given writing assignment
  - complete various analytical responses related to different topics discussed in class
- The teacher will provide examples of well-written student work and give feedback to student work in order to help them improve

##### Assessments/Evaluations:

- Common scoring guides

##### Sample Assessment Questions:

- What are the most critical revisions that need to be made to the essay as it stands right now?

##### Instructional Resources/Tools:

- Editing guide
- The Internet
- Computers

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Cross Curricular Connections:

- This is an integrated English and Biology class, all of our projects contain aspects of English and Science

**Depth of Knowledge (Section 5)**

DOK: 4



## Curriculum: BioLit (English Portion)

### Curricular Unit: Writing Standards

Instructional Unit: Y. 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

### Standard Alignments (Section 2)

GLE/CLE: N/A Knowledge: (CA) 1,3-6 CCSS: 9-10.W.6 NETS: 1a,b; 2a,b,d; 3; 4-6 Performance: 1.1, 1.2, 1.4-1.7, 2.1, 2.3, 2.7, 3.1, 3.3, 3.4, 4.5, 4.6
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### Unit (Section 3)

Learning Targets:
<ul style="list-style-type: none"><li>• Use technology to produce, publish, and update my own work and shared writing projects</li></ul>
Instructional Strategies:
<ul style="list-style-type: none"><li>• Students will:<ul style="list-style-type: none"><li>• create a webpage during their ecology project</li><li>• create a stop motion video over cell division</li><li>• turn in all their papers on turnitin.com</li><li>• use Google Drive to collaborate with teachers and group members</li><li>• edit their papers and turn in work using Google Drive</li><li>• utilize the school databases to conduct research</li></ul></li></ul>
Assessments/Evaluations:
<ul style="list-style-type: none"><li>• Formative/summative: Common scoring guide</li><li>• Formative: Teacher observation</li><li>• Summative: Presentations/completed projects</li></ul>
Sample Assessment Questions:
<ul style="list-style-type: none"><li>• Create a webpage about the planet your group created.</li></ul>
Instructional Resources/Tools:
<ul style="list-style-type: none"><li>• Computers</li><li>• The Internet</li><li>• Wix.com</li><li>• Google Drive</li></ul>

Cross Curricular Connections:

- This is an integrated English and Biology class, all of our projects contain aspects of English and Science

**Depth of Knowledge (Section 5)**

DOK: 4

## Curriculum: BioLit (English Portion)

### Curricular Unit: Writing Standards

Instructional Unit: Z01. 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

### Standard Alignments (Section 2)

GLE/CLE: N/A Knowledge: (CA) 1,3,4 CCSS: 9-10.W.7 NETS: 1a,c; 2b,d; 3; 4; 5c; 6a,b Performance: 1.1, 1.2, 1.4, 1.6, 1.7, 2.2, 2.7, 3.1, 3.3-3.5, 3.7, 3.8, 4.1, 4.5
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### Unit (Section 3)

#### Learning Targets:

- Conduct short or sustained research projects that answer a specific question or solve a problem
- Adjust search process according to the information encountered during research
- Synthesize multiple sources on a subject and demonstrate the subject under investigation

#### Instructional Strategies:

- Students will:
  - conduct an experiment over the effect of different factors on photosynthesis
  - be asked to discuss their findings in a lab report. This report will examine all factors of their hypothesis and will also include graphs and charts
  - draw conclusions based on their experiment
  - explain what could have been done differently to attain a different result

#### Assessments/Evaluations:

- Completed research essay that shows all the steps of the writing process – a common scoring guide will be used to assess the assignments
- Assessed using a scoring guide:
  - Lab report
  - Photosynthesis experiment guidelines

#### Sample Assessment Questions:

- Provide data that shows how your experiment progressed over time.

Instructional Resources/Tools:
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- |  |
|--|
| <ul style="list-style-type: none"><li>• Lab report sample</li><li>• Computers</li><li>• Internet</li><li>• Plant experiment supplies</li></ul> |
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Cross Curricular Connections:
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|---|
| <ul style="list-style-type: none"><li>• This is an integrated English and Biology class, all of our projects contain aspects of English and Science</li></ul> |
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**Depth of Knowledge (Section 5)**

DOK: 4
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## Curriculum: BioLit (English Portion)

### Curricular Unit: Writing Standards

Instructional Unit: Z02. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation

#### Standard Alignments (Section 2)

GLE/CLE: N/A Knowledge: (CA) 1-4,6 CCSS: 9-10.W.8 NETS: 1a; 2a; 3; 4a-c; 5a,c,d; 6a,b,d Performance: 1.1-1.8, 2.1-2.5, 2.7, 3.1-3.7, 4.1, 4.4, 4.5
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#### Unit (Section 3)

##### Learning Targets:

- Gather information from multiple sources (print and digital) and assess credibility and accuracy of those sources
- Integrate information into the text selectively to maintain the flow of ideas avoiding plagiarism
- Follow a standard format (MLA) for citation

##### Instructional Strategies:

- Students will:
  - complete research with databases and reliable websites to be incorporated into given assignments – MLA will be used
  - create multi-media presentations
  - use their research for:
    - in-class presentations
    - informative writing
    - persuasive writing
    - debating
- The teacher will:
  - demonstrate how to use the school databases for research
  - provide clear examples of proper MLA formatting as well as examples of creditable and non-creditable sources

<p>Assessments/Evaluations:</p> <ul style="list-style-type: none"> <li>• Assignment must be submitted to turnitin.com and be accompanied by a common scoring guide</li> <li>• Final copies demonstrate MLA style</li> <li>• Presentation scoring guide</li> <li>• MLA: <ul style="list-style-type: none"> <li>• practice pages</li> <li>• quiz</li> </ul> </li> </ul>
<p>Sample Assessment Questions:</p> <ul style="list-style-type: none"> <li>• Evaluate three resources and explain the claims they present that are relevant to your chosen research topic.</li> </ul>
<p>Instructional Resources/Tools:</p> <ul style="list-style-type: none"> <li>• Library databases</li> <li>• Internet</li> <li>• Computers</li> <li>• MLA handbook</li> </ul>
<p>Cross Curricular Connections:</p> <ul style="list-style-type: none"> <li>• This is an integrated English and Biology class, all of our projects contain aspects of English and Science</li> </ul>

### **Depth of Knowledge (Section 5)**

DOK: 4
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## Curriculum: BioLit (English Portion)

### Curricular Unit: Writing Standards

Instructional Unit: Z03. Draw evidence from literary or informational texts to support analysis, reflection, and research

- A. Apply *grades 9–10 Reading standards* to literature (e.g., “Analyze how an author draws on and transforms source material in a specific work [e.g., how Shakespeare treats a theme or topic from Ovid or the Bible or how a later author draws on a play by Shakespeare]”)
- B. Apply *grades 9–10 Reading standards* to literary nonfiction (e.g., “Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning”)

### Standard Alignments (Section 2)

GLE/CLE: N/A Knowledge: (CA) 1-4,6 CCSS: 9-10.W.9a,b NETS: 1a; 2a; 3; 4a-c; 5a,c,d; 6a,b,d Performance: 1.1-1.8, 2.1, 2.3-2.5, 2.7, 3.1-3.7, 4.1, 4.4, 4.5
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### Unit (Section 3)

Learning Targets:

- Use evidence from literature to support analysis, reflection, and research in writing
- Use evidence from informational text to support analysis, reflection, and research in writing

Instructional Strategies:

- Students will:
  - write an analytical response that compares a main character in the book *Unwind* to one of the major themes present in the novel
  - conduct research to write an informative paper that explains the relationships between causes and effects
  - be asked to explain and evaluate the validity of scientific concepts presented in the works of fiction they read
  - need to explain why the science in the novels is realistic or not

Assessments/Evaluations:

- Completed research essay that demonstrates all phases of the writing process – a common scoring guide will be applied

Sample Assessment Questions:

- Evaluate the validity of the scientific concepts presented in the fiction novel you are reading

Board Approved 8-3-15

Instructional Resources/Tools:
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- |  |
|--|
| <ul style="list-style-type: none"><li>• Books</li><li>• Library databases</li><li>• Computers</li><li>• Internet</li></ul> |
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Cross Curricular Connections:
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- |   |
|---|
| <ul style="list-style-type: none"><li>• This is an integrated English and Biology class, all of our projects contain aspects of English and Science</li></ul> |
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**Depth of Knowledge (Section 5)**

DOK: 4
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## Curriculum: BioLit (English Portion)

### Curricular Unit: Writing Standards

Instructional Unit: Z04. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences

#### Standard Alignments (Section 2)

GLE/CLE: N/A Knowledge: (CA) 1-4,6 CCSS: 9-10.W.10 NETS: 1a; 2a; 3; 4a-c; 5a,c,d; 6a,b,d Performance: 1.1-1.8, 2.1, 2.3-2.5, 2.7, 3.1-3.7, 4.1, 4.4, 4.5
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#### Unit (Section 3)

##### Learning Targets:

- Write routinely over extended time frames for research, reflection, and revision
- Write routinely over shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences

##### Instructional Strategies:

- Students will complete in-class timed writing assignments. These assignments might be:
  - longer, multi-paragraph essays
  - in the form of analytical responses
- The teacher will present students will sample works and show the proper structure of a well-written paragraph

##### Assessments/Evaluations:

- Essays on exams and timed writings – a common assessments will be utilized
- Scoring guides:
  - Analytical response
  - Timed writing

##### Sample Assessment Questions:

- In a multi-paragraph persuasive essay, create a cohesive argument for your chosen topic.

##### Instructional Resources/Tools:

- Computers
- Scoring guide

##### Cross Curricular Connections:

- This is an integrated English and Biology class, all of our projects contain aspects of English and Science

Board Approved 8-3-15

## **Depth of Knowledge (Section 5)**

DOK: 4
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## Curriculum: BioLit (English Portion)

### Curricular Unit: Speaking and Listening Standards

Instructional Unit: Z05. Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grades 9–10 topics, texts, and issues*, building on others' ideas and expressing their own clearly and persuasively

- a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas
- b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed
- c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions
- d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented

### Standard Alignments (Section 2)

GLE/CLE: N/A Knowledge: (CA) 3-6 CCSS: 9-10.SL.1a-d NETS: 2a,b Performance: 2.3
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### Unit (Section 3)

Learning Targets:

- Effectively participate in one-on-one, group, and teacher-led discussions clearly articulating ideas and using persuasion by the following:
  - **a. Prepare for discussions by reading and researching class materials beforehand, referring to text and research brought to the discussion, and draw from and build on the ideas of others in the discussion**
  - b. Collaborate with members of a group to set guidelines, goals, and roles and be able to track goals and define roles when needed
  - **c. Propel conversation by asking questions, incorporating others into the discussion, and verifying or challenging the ideas of others**

<ul style="list-style-type: none"> <li>d. Respond appropriately to others' opinions by summarizing opposing ideas, supporting opinions, qualifying or justifying views, and making new connections based on evidence and reasoning</li> </ul>
<p>Instructional Strategies:</p> <ul style="list-style-type: none"> <li>Socratic seminar – students will:             <ul style="list-style-type: none"> <li>complete a discussion preparation page</li> <li>come to class prepared to discuss the book <i>Unwind</i></li> <li>be required to question and comment on the information their peers provide in the discussion</li> </ul> </li> <li>Small group discussions – frequently students will be asked to talk about a new topic at their table with their peers and then share ideas with the whole class</li> <li>At the beginning of each project, students will be asked to evaluate their learning targets and then create a list of Knows and Need to Knows. This list helps guide the project and the information that students need to learn about</li> <li>Critical Friends – students will participate in the Critical Friends process that helps them evaluate their presentations and their peers presentations prior to presentation day</li> <li>Students will complete a group contract prior to beginning each new project</li> </ul>
<p>Assessments/Evaluations:</p> <ul style="list-style-type: none"> <li>Formative/summative:             <ul style="list-style-type: none"> <li>Discussion and presentation scoring guide</li> <li>Group contracts</li> <li>Critical friends note taking</li> <li>Socratic seminar preparation page</li> <li>Socratic seminar grading (done by the teacher)</li> </ul> </li> </ul>
<p>Sample Assessment Questions:</p> <ul style="list-style-type: none"> <li>Presentation scoring guide</li> </ul>
<p>Instructional Resources/Tools:</p> <ul style="list-style-type: none"> <li>Internet</li> <li>Computers</li> <li>iPads</li> </ul>
<p>Cross Curricular Connections:</p> <ul style="list-style-type: none"> <li>This is an integrated English and Biology class, all of our projects contain aspects of English and Science</li> </ul>

### **Depth of Knowledge (Section 5)**

DOK: 2
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## Curriculum: BioLit (English Portion)

### Curricular Unit: Speaking and Listening Standards

Instructional Unit: Z06. Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source

#### Standard Alignments (Section 2)

GLE/CLE: N/A

Knowledge: (CA) 3,5

CCSS: 9-10.SL.2

NETS: 3b,c; 4a

Performance: 1.7, 2.1

#### Unit (Section 3)

Learning Targets:

- **Integrate multiple sources of information presented in diverse formats and media**
- Evaluate the credibility and accuracy of multiple sources presented

Instructional Strategies:

- Students will:
  - use various types of technology to establish credibility of information for use in a variety of presentation formats
  - evaluate information for credibility and relevance
  - create presentations that utilize multi media of some kind
- Critical Friends – students will participate in the Critical Friends process that helps them evaluate their presentations and their peers presentations prior to presentation day

Assessments/Evaluations:

- Critical Friends
- Group presentation scoring guide
- Presentation scoring guide – both speaking and content

Sample Assessment Questions:

- Formative/summative:
  - Presentations – assessed using a scoring guide
  - Group contracts

Instructional Resources/Tools:

- Computers
- Internet
- Relevant technology
- Presentation tools:
  - Prezi
  - PowerPoint

Cross Curricular Connections:

- This is an integrated English and Biology class, all of our projects contain aspects of English and Science

**Depth of Knowledge (Section 5)**

DOK: 3

Curriculum: BioLit (English Portion)

Curricular Unit: Speaking and Listening Standards

Instructional Unit: Z07. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence

**Standard Alignments (Section 2)**

GLE/CLE: N/A

Knowledge: (CA) 5

CCSS: 9-10.SL.3

NETS: 4a

Performance: 4.1

**Unit (Section 3)**

Learning Targets:

- Evaluate a speaker's point of view, reasoning, or use of evidence
- Identify fallacious reasoning or exaggerated evidence

Instructional Strategies:

- Students will:
  - participate in Critical Friends that helps them evaluate their presentations and their peers presentations prior to presentation day
  - take part in an in-class debate over current issues related to genetics
  - need to evaluate the opposing team's claims and evidence in order to offer clear points and counter points
  - be asked to back up their information with credible sources in all their presentations

Assessments/Evaluations:

- Formative/summative – assessed using a scoring guide:
  - Presentations
  - Speeches/debate

Sample Assessment Questions:

- Critical Friends note sheet

Instructional Resources/Tools:

- Computers
- Video clips – TED talks
- Internet
- Presentation tools

Cross Curricular Connections:

- This is an integrated English and Biology class, all of our projects contain aspects of English and Science

**Depth of Knowledge (Section 5)**

DOK: 3



## Curriculum: BioLit (English Portion)

### Curricular Unit: Speaking and Listening Standards

Instructional Unit: Z08. Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task

#### Standard Alignments (Section 2)

GLE/CLE: N/A Knowledge: (CA) 1,6 CCSS: 9-10.SL.4 NETS: 2b Performance: 2.1
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#### Unit (Section 3)

Learning Targets:
<ul style="list-style-type: none"><li>Engage listeners so that they can follow the line of reasoning</li><li><b>Present information where the organization, development, substance, and style are appropriate to my purpose</b></li></ul>
Instructional Strategies:
<ul style="list-style-type: none"><li>Students will:<ul style="list-style-type: none"><li>create formal presentations over a wide range of topics. One formal presentation is required per project for a total of 6 during the semester</li><li>participate in the Critical Friends process that helps them evaluate their presentations and their peers' presentations prior to presentation day</li><li>create informal presentations and report their findings</li></ul></li></ul>
Assessments/Evaluations:
<ul style="list-style-type: none"><li>Presentations – assessed using a scoring guide</li><li>Research and deliver informative speech that expresses clear understanding of the topic</li></ul>
Sample Assessment Questions:
<ul style="list-style-type: none"><li>Scoring guides for:<ul style="list-style-type: none"><li>common presentation</li><li>content</li></ul></li></ul>

Instructional Resources/Tools:
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- |  |
|--|
| <ul style="list-style-type: none"><li>• Computers</li><li>• Internet</li><li>• Presentation tools:<ul style="list-style-type: none"><li>• Prezi</li><li>• PowerPoint</li></ul></li></ul> |
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Cross Curricular Connections:
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- |   |
|---|
| <ul style="list-style-type: none"><li>• This is an integrated English and Biology class, all of our projects contain aspects of English and Science</li></ul> |
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<b>Depth of Knowledge (Section 5)</b>
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DOK: 3
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## Curriculum: BioLit (English Portion)

### Curricular Unit: Speaking and Listening Standards

Instructional Unit: Z09. Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest

#### Standard Alignments (Section 2)

GLE/CLE: N/A Knowledge: (CA) 3,5,6 CCSS: 9-10.SL.5 NETS: 5 Performance: 1.4, 1.8, 2.7
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#### Unit (Section 3)

Learning Targets:
<ul style="list-style-type: none"><li>Enhance the audience's understanding of findings, reasoning, and evidence by incorporating digital media such as textual, graphical, audio, visual, or interactive elements</li></ul>
Instructional Strategies:
<ul style="list-style-type: none"><li>Students will:<ul style="list-style-type: none"><li>use technology to effectively enhance speeches/presentations on a given topic</li><li>create a stop-motion video that shows the phases of cell division which will help the students explain how cancer forms in the body</li><li>use iMovie to film a skit that explains the diagnosis of a rare genetic disorder</li></ul></li></ul>
Assessments/Evaluations:
<ul style="list-style-type: none"><li>Presentation scoring guides</li><li>Video checklist</li></ul>
Sample Assessment Questions:
<ul style="list-style-type: none"><li>Create a stop motion video showing the different phases of mitosis. Write a script to accompany the video</li></ul>
Instructional Resources/Tools:
<ul style="list-style-type: none"><li>Computers</li><li>Internet</li><li>Presentation tools</li><li>iMovie</li></ul>
Cross Curricular Connections:
<ul style="list-style-type: none"><li>This is an integrated English and Biology class, all of our projects contain aspects of English and Science</li></ul>

## **Depth of Knowledge (Section 5)**

DOK: 4
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## Curriculum: BioLit (English Portion)

### Curricular Unit: Speaking and Listening Standards

Instructional Unit: Z10. Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See grades 9–10 Language standards 1 and 3 on pages 54 for specific expectations)

#### Standard Alignments (Section 2)

GLE/CLE: N/A Knowledge: (CA) 6,7 CCSS: 9-10.SL.6 NETS: 2 Performance: 2.1
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#### Unit (Section 3)

Learning Targets: <ul style="list-style-type: none"><li>Adapt speech to a variety of tasks and contexts, using formal English as necessary</li></ul>
Instructional Strategies: <ul style="list-style-type: none"><li>Students will:<ul style="list-style-type: none"><li>create six formal presentations through the course of the class. Each presentation has a section in the scoring guide which assesses this standard</li><li>take part in an in-class debate over current issues related to genetics</li><li>evaluate the opposing team's claims and evidence in order to offer clear points and counter points</li></ul></li></ul>
Assessments/Evaluations: <ul style="list-style-type: none"><li>Presentation scoring guide</li><li>Use formal speech in presentations</li></ul>
Sample Assessment Questions: <ul style="list-style-type: none"><li>On presentation scoring guide: Presenters will use formal English at all times during the presentation and questioning</li></ul>
Instructional Resources/Tools: <ul style="list-style-type: none"><li>Presentation tools:<ul style="list-style-type: none"><li>PowerPoint</li><li>Prezi</li></ul></li><li>Computers</li><li>Edmodo</li><li>Internet</li></ul>

Cross Curricular Connections:

- This is an integrated English and Biology class, all of our projects contain aspects of English and Science

**Depth of Knowledge (Section 5)**

DOK: 2

## Curriculum: BioLit (English Portion)

### Curricular Unit: Language Standards

Instructional Unit: Z11. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking

- a. Use parallel structure
- b. Use various types of phrases (noun, verb, adjectival, adverbial, participial, prepositional, absolute) and clauses (independent, dependent; noun, relative, adverbial) to convey specific meanings and add variety and interest to writing or presentations

### Standard Alignments (Section 2)

GLE/CLE: N/A Knowledge: (CA) 1,4 CCSS: 9-10.L.1a,b NETS: 2 Performance: 2.2
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### Unit (Section 3)

Learning Targets:
<ul style="list-style-type: none"><li>• Use standard English grammar when writing or speaking _ specifically the following at the tenth grade level:<ol style="list-style-type: none"><li>a. <b>Use parallel structure in writing and speaking</b></li><li>b. <b>Define and correctly use the following types of phrases: noun phrase, verb phrase, adjectival phrase, adverbial phrase, participial phrase, prepositional phrase, and absolute phrase</b></li><li>c. Define and correctly use the following types of clauses: independent clause, dependent clause, noun clause, relative clause, and adverbial clause</li></ol></li></ul>
Instructional Strategies:
<ul style="list-style-type: none"><li>• Students will:<ul style="list-style-type: none"><li>• review and evaluate examples of parallel structure in writing and speeches</li><li>• create a practical application of parallelism in their writing</li><li>• complete Gram Cram pages as well as weekly quizzes. Gram cram provides students with daily grammar practice and editing, as well as specific language rules, relevant to Standard English grammar</li></ul></li><li>• The teacher will provide examples and non-examples in order to clarify to students what effective uses of parallel structure look and sound like</li></ul>
Assessments/Evaluations:
<ul style="list-style-type: none"><li>• Common scoring guides</li><li>• Gram Cram:<ul style="list-style-type: none"><li>• Practice</li><li>• quizzes</li></ul></li></ul>

Sample Assessment Questions:
<ul style="list-style-type: none"> <li>When writing the persuasive essay, students must use parallel structure in their writing, as per the scoring guide</li> </ul>
Instructional Resources/Tools:
<ul style="list-style-type: none"> <li>Grammar handbooks online</li> <li>Computers</li> <li>Internet</li> </ul>
Cross Curricular Connections:
<ul style="list-style-type: none"> <li>This is an integrated English and Biology class, all of our projects contain aspects of English and Science</li> </ul>

### **Depth of Knowledge (Section 5)**

DOK: 2
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Curriculum: BioLit (English Portion)

Curricular Unit: Language Standards

Instructional Unit: Z12. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing

- a. Use a semicolon (and perhaps a conjunctive adverb) to link two or more closely related independent clauses
- b. Use a colon to introduce a list or quotation
- c. Spell correctly

### **Standard Alignments (Section 2)**

GLE/CLE: N/A Knowledge: (CA) 1,4 CCSS: 9-10.L.2 NETS: 2 Performance: 2.2
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### **Unit (Section 3)**

Learning Targets:
<ul style="list-style-type: none"><li>• Use a semicolon to link two or more related independent clauses</li><li>• Use a colon to introduce a list or quotation</li><li>• Use various resources to spell and capitalize correctly (dictionary, spell check)</li></ul>
Instructional Strategies:
<ul style="list-style-type: none"><li>• Students will:<ul style="list-style-type: none"><li>• complete Gram Cram practice pages as well as weekly quizzes. Gram cram provides students with daily grammar practice and editing, as well as specific language rules, relevant to Standard English grammar</li><li>• create a grammar book for one of their in class projects. This book defines and gives practice and answers for most of the common types of grammar and usage that students encounter</li><li>• edit major papers using guided, teacher provided edit sheets</li></ul></li><li>• The teacher will model sentence varieties</li></ul>
Assessments/Evaluations:
<ul style="list-style-type: none"><li>• Gram Cram quizzes</li><li>• Common punctuation/writing scoring guides</li></ul>
Sample Assessment Questions:
<ul style="list-style-type: none"><li>• See grammar and language portion of the major essay scoring guides</li></ul>

Instructional Resources/Tools:

- Online grammar handbooks
- Gram Cram quizzes
- Grammar book checklist
- Computers
- Internet

Cross Curricular Connections:

- This is an integrated English and Biology class, all of our projects contain aspects of English and Science

**Depth of Knowledge (Section 5)**

DOK: 2

Curriculum: BioLit (English Portion)

Curricular Unit: Language Standards

Instructional Unit: Z13. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening

a. Write and edit work so that it conforms to the guidelines in a style manual (e.g., *MLA Handbook*, *Turabian's Manual for Writers*) appropriate for the discipline and writing type

### Standard Alignments (Section 2)

GLE/CLE: N/A Knowledge: (CA) 5,7 CCSS: 11-12.L.3a NETS: 4c Performance: 1.6
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### Unit (Section 3)

Learning Targets:
<ul style="list-style-type: none"><li>• Apply knowledge of language to make effective choices in the language used to shaped the meaning and style across different contexts: literary analysis, informative, non-fiction</li><li>• Apply knowledge of correct usage of standard English when reading, listening, writing, and editing</li><li>• Write and edit work so it conforms to the guidelines in the MLA handbook, using the style manual to understand discipline-specific guidelines and types of writing</li></ul>
Instructional Strategies:
<ul style="list-style-type: none"><li>• Students will:<ul style="list-style-type: none"><li>• include examples of figurative language in their major papers. For example, students must include:<ul style="list-style-type: none"><li>• imagery</li><li>• similes</li><li>• allusions</li><li>• sensory detail</li></ul></li></ul>in their narrative essay. They must use proper parallel structure and persuasive language in their persuasive paper</li><li>• apply all rules of proper English grammar to their own writing, with the help of a specific editing checklist</li><li>• study tone and mood within text and apply it to student writing</li></ul>

<p>Assessments/Evaluations:</p> <ul style="list-style-type: none"> <li>• Essay and analytical response scoring guides over a given piece of written material</li> <li>• Editing checklist</li> </ul>
<p>Sample Assessment Questions:</p> <ul style="list-style-type: none"> <li>• While editing, circle at least 10 dull words and replace them with more interesting and specific synonyms</li> </ul>
<p>Instructional Resources/Tools:</p> <ul style="list-style-type: none"> <li>• Online grammar handbook</li> <li>• Computers</li> <li>• Internet</li> </ul>
<p>Cross Curricular Connections:</p> <ul style="list-style-type: none"> <li>• This is an integrated English and Biology class, all of our projects contain aspects of English and Science</li> </ul>

### **Depth of Knowledge (Section 5)**

DOK: 2
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## Curriculum: BioLit (English Portion)

### Curricular Unit: Language Standards

Instructional Unit: Z14. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grades 9–10 reading and content*, choosing flexibly from a range of strategies

- a. Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase
- b. Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., analyze, analysis, analytical; advocate, advocacy)
- c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, or its etymology
- d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary)

### Standard Alignments (Section 2)

GLE/CLE: N/A Knowledge: (CA) 1-3,6,7 CCSS: 9-10.L.4a-d NETS: 4c Performance: 1.5, 1.6, 3.4
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### Unit (Section 3)

Learning Targets:

- Use various types of context clues to determine meaning of words and phrases
- Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., analyze, analysis, analytical, advocate, advocacy)
- Use various reference materials to check inferred meaning, clarify meaning, usage, origin, and pronunciation
- Verify the definition of a word or phrase by studying the context or consulting reference material

Instructional Strategies:

- Vocabulary videos and writing practice
- Guided practice on identifying the types of context clues

<ul style="list-style-type: none"> <li>Students will:             <ul style="list-style-type: none"> <li>study root words, especially the ones relevant to biology and concepts of science</li> <li>break down unfamiliar words into smaller, more understandable parts</li> <li>complete online context clue practice</li> </ul> </li> </ul>
Assessments/Evaluations: <ul style="list-style-type: none"> <li>Vocabulary quizzes</li> <li>Root word practice</li> <li>Context clue practice</li> </ul>
Sample Assessment Questions: <ul style="list-style-type: none"> <li>Use each new vocabulary word in a sentence. Make sure to keep the part of speech in mind as you write!</li> </ul>
Instructional Resources/Tools: <ul style="list-style-type: none"> <li>Vocab videos</li> <li>Root word analysis page</li> <li>Online context clue practice</li> <li>Computers</li> <li>Internet</li> </ul>
Cross Curricular Connections: <ul style="list-style-type: none"> <li>This is an integrated English and Biology class, all of our projects contain aspects of English and Science</li> </ul>

### **Depth of Knowledge (Section 5)**

DOK: 2
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## Curriculum: BioLit (English Portion)

### Curricular Unit: Language Standards

Instructional Unit: Z15. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings

- a. Interpret figures of speech (e.g., euphemism, oxymoron) in context and analyze their role in the text
- b. Analyze nuances in the meaning of words with similar denotations

### Standard Alignments (Section 2)

GLE/CLE: N/A Knowledge: (CA) 1-3,6 CCSS: 9-10.L.5a,b NETS: 1a,b; 2 Performance: 1.5, 1.6, 3.4
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### Unit (Section 3)

Learning Targets:

- a.
  - Interpret figures of speech (euphemism and oxymoron) and explain their purpose in the text
  - Determine the difference between figurative and literal meanings of words (puns, hyperbole, sarcasm, and parody)
- b. Analyze the nuances in the meaning of words with similar denotations

Instructional Strategies:

- Students will:
  - create a workbook that gives:
    - definition
    - practice
    - an answer keyand covers important literary devices
  - identify and explain how different literary devices are used in the books we read in class
- The teacher will provide guided practice

Assessments/Evaluations:

- Reading quizzes
- Literary Terms game – assessed using a checklist
- Identifying how literary devices are used in fiction and nonfiction works

Sample Assessment Questions:

- Explain the purpose of the parallel structure used in a specific passage.
- What impact does the use of parallel structure have on the passage and message as a whole?

Instructional Resources/Tools:

- Literary Terms Game checklist
- Books
- Computers
- Internet

Cross Curricular Connections:

- This is an integrated English and Biology class, all of our projects contain aspects of English and Science

**Depth of Knowledge (Section 5)**

DOK: 2



## Curriculum: BioLit (English Portion)

### Curricular Unit: Language Standards

Instructional Unit: Z16. Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression

#### Standard Alignments (Section 2)

GLE/CLE: N/A Knowledge: (CA) 1-3,6 CCSS: 9-10.L.6 NETS: 1a,b; 2; 3b,c; 4b,c; 5 Performance: 1.5, 1.6, 3.4
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#### Unit (Section 3)

##### Learning Targets:

- Use and acquire grade-appropriate words and phrases to show college and career readiness
- Use resources independently to improve vocabulary important to comprehension and expression

##### Instructional Strategies:

- Students will:
  - watch Quack vocabulary videos. Each video teaches the students 20 ACT style words
  - memorize words and definitions and take a quiz over the words
  - define all scientific words that they are unfamiliar with and break those words down into usable roots

##### Assessments/Evaluations:

- Vocabulary quizzes
- Applying content specific words to presentations and writing

##### Sample Assessment Questions:

- Complete genetics vocabulary assignment.

##### Instructional Resources/Tools:

- Computers
- Internet
- Quack vocab videos
- Edmodo

Cross Curricular Connections:

- This is an integrated English and Biology class, all of our projects contain aspects of English and Science

**Depth of Knowledge (Section 5)**

DOK: 3

Curriculum: BioLit (Biology)

Curricular Unit: Living Organisms; Ecosystems

Instructional Unit: Z17. The Theory of Evolution by Natural Selection

### **Standard Alignments (Section 2)**

GLE/CLE: SC3.3.Da,b; SC4.3.Aa,b; SC4.3.Ba,b; SC4.3.Ca-d

Knowledge: (SC) 3,4,7

CCSS: 9-10.RI.3; 9-10.RI.7; : 9-10.RI.8; : 9-10.RI.9; 9-10.SL.1a-d; 9-10.SL.2; 9-10.SL.3; 9-10.SL.4; 9-10.SL.5; 9-10.SL.6; 9-10.RST.1; 9-10.RST.5; 9-10.RST.8

NETS: 1a,b; 2a,b,d; 3b,c; 4a,b; 6a,b

Performance: 1.2, 1.7, 2.1

### **Unit (Section 3)**

Learning Targets:

- Communicate the scientific evidence that supports that modern living things have evolved from a common ancestor.  
This includes:
  - artificial selection
  - direct observation
  - fossil record
  - geographic distribution of living species
  - comparative anatomy (homologous structures, analogous structures, and vestigial structures)
  - similarities in embryology
  - biological molecules (DNA, proteins)
- Explain (using evidence) that the process of evolution is based on four factors:
  - Overproduction (the potential for a species to increase in number)
  - Genetic variations (due to mutations and sexual reproduction)
  - Competition (for limited resources)
  - Survival of the fittest (individuals better suited to survive and reproduce in the environment pass on those favored traits to more offspring than others without favored traits)
- Use statistics and probability to analyze changes in characteristics of a population over time.  
This includes:
  - stabilizing selection
  - disruptive selection
  - directional selection
- Explain the sources of variation in a population, including adaptations, mutations, sexual reproduction, and changes in a gene pool

### Instructional Strategies:

- PBL: Censorship in Public Education: What are students allowed to learn in public schools?
  - This project integrates the Theory of Evolution by Natural Selection with banned books and involves all of the individual and group pieces listed below
  - The major product is a group presentation
- Edmodo is used as the course platform for instruction and communication among the large group and small groups
- Students will:
  - make a Geologic Time Scale in small groups (using cash register tape) to help them conceptualize thousands, millions, and billions of years
  - read and analyze a case study: “The Evolution of Human Skin Color” in small groups to evaluate evidence of evolution as well as observe natural selection in action
  - complete the Evolutionary Evidence packet, including:
    - fossil evidence
    - comparative anatomy and embryology
    - biological molecule comparisonto work with the same types of evidence that biologists use to explain evolution
  - use computer animations to investigate common ancestors of humans through analysis of various types of evidence
  - individually:
    - read and analyze article on antibiotic resistance to see that evolution by natural selection is happening now and has an impact on their lives
    - participate in computer simulations/games of natural selection to apply knowledge of evolution by natural selection (population survival = success)
    - research the history of evolutionary thought (Malthus, Lamarck, Darwin) using Berkeley’s “Understanding Evolution” website and then discuss trends in small groups
  - take notes during large group discussion over:
    - adaptations (types and examples)
    - types of selection (stabilizing, directional, and disruptive)
  - participate in Critical Friends protocol to critique and evaluate each groups’ presentation for accuracy and quality (scoring guide)
- Apt Adaptations activity/simulation – Students:
  - “become” a different species with one of three possible variations and then compete for survival in their environment
  - are able to observe evolution of a small population
  - identify and justify an adaptation in a population
  - identify the four conditions of natural selection as seen in activity
  - Teacher-led Nearpod presentation over sources of variation in a population (students take notes)

<p>Assessments/Evaluations:</p> <ul style="list-style-type: none"> <li>Formative: <ul style="list-style-type: none"> <li>Edmodo quizzes and polls</li> <li>Teacher Q &amp; A – large group discussion and small group checks</li> <li>Case-study analysis questions</li> <li>Small and large group discussions</li> <li>Questions over Apt Adaptations activity</li> <li>Computer simulations/games of natural selection (students must use their current understanding of natural selection to “survive”)</li> <li>Nearpod “understanding checks” during lecture over sources of variation</li> </ul> </li> <li>Summative: <ul style="list-style-type: none"> <li>Group presentations: debunking personal evolution misconceptions and misconceptions in media (see scoring guide)</li> <li>Evolution test: Common assessment from Biology</li> </ul> </li> </ul>
<p>Sample Assessment Questions:</p> <ul style="list-style-type: none"> <li>According to Darwin’s Theory of Natural Selection, the individuals that tend to survive are the ones best adapted for their environment. Their survival is due to the: <ol style="list-style-type: none"> <li>possession of adaptations developed through continual use over a lifetime.</li> <li>possession of inherited characteristics that maximize fitness.</li> <li>lack of competition within the species.</li> <li>choices made by plant and animal breeders.</li> </ol> </li> <li>An agricultural plot of land is sprayed with a very powerful insecticide to destroy harmful insects. Nevertheless, many of the same species of insects are present on the land the following year. How might the Theory of Evolution by Natural Selection account for this phenomenon? Identify the <b>four points</b> of Darwin’s theory and provide evidence from the scenario to support the points. (4 points)</li> </ul>
<p>Instructional Resources/Tools:</p> <ul style="list-style-type: none"> <li>Computer/laptops</li> <li>iPad</li> <li>Projector</li> <li>Biology textbook</li> <li>Teacher-provided articles</li> </ul>
<p>Cross Curricular Connections:</p> <ul style="list-style-type: none"> <li>This is an integrated English and Biology course; all of our projects contain aspects of English and Science</li> <li>Math: Students will measure to the nearest millimeter and calculate an appropriate scale to model the geological history of the Earth</li> </ul>

### Depth of Knowledge (Section 5)

DOK: 4

Curriculum: BioLit (Biology)

Curricular Unit: Living Organisms

Instructional Unit: Z18. Cell Structure and Function, Cellular Transport, and Cell Cycle

### Standard Alignments (Section 2)

GLE/CLE: SC3.1.Ba; SC3.1.Ca,b; SC3.2.Aa-c; SC3.2.Fa-c ; 3.3.Aa; 3.3.Ca  
Knowledge: (SC) 3,8  
CCSS: 9-10.RI.1; 9-10.RI.2; 9-10.RI.3; 9-10.RI.7; 9-10.RI.8; 9-10.RI.9; 9-10.SL.1a-d;  
9-10.SL.2; 9-10.SL.3; 9-10.SL.4; 9-10.SL.5; 9-10.SL.6; 9-10.W.1a-e; 9-10.W.2a-f  
NETS: 1a,b; 2a,b,d; 3b,c; 4a,b; 6a,b  
Performance: 1.4, 1.7, 2.1, 2.2

### Unit (Section 3)

Learning Targets:

- Create a model to show what structures are present in multicellular organisms and describe how those structures interact to maintain life.  
This includes:
  - comparing and contrasting different cell types
  - organelle functions and structures
  - cell membrane structure and function
  - determining how substances move in and out of the cell
  - determining how cells will respond to their environment
  - homeostasis
- Illustrate the roles of cell division (mitosis) and cell differentiation in producing and maintaining complex organisms.  
This includes defining the following terms:
  - Cell cycle
  - Mitosis (including the 4 phases)
  - Chromatin
  - Chromosome

Instructional Strategies:

- PBL: Cell Biology and Cancer
  - In this project, students will learn how cell:
    - structure
    - function
    - transport
    - divisionrelate to various types of cancer. The project will include all of the pieces listed below. The major products will include a:
    - scale cell model
    - common craft video
    - (research-based) group presentation

Board Approved 8-3-15

- Students will:
  - do guided research using assigned websites to examine:
    - the parts of Cell Theory
    - its historical significance
    - the different types of cells
 (students will create a resource sheet)
  - look at prepared slides of cells under a compound microscope in order to learn:
    - basic microscope skills
    - the fundamentals of plant and animal cell structure and cell division
  - display various types of molecular transport on their cell model in order to better understand the cell membrane structure and function (rubric and checklist)
  - individually:
    - investigate molecular transport using computer animations and answer analysis questions about trends
    - identify the phases of given cells based on chromosome arrangement and be able to explain what is happening during each phase of mitosis and the cell cycle with the help of computer animations
  - research a chosen type of cancer in small groups in order to find out:
    - causes
    - effects
    - treatments
 on a molecular level, as well as on an individual level (rubric and checklist)
  - use iPads to film common craft videos depicting the cell cycle of a normal cell versus a cancer cell (rubric and checklist)
  - participate in Critical Friends protocol to critique and evaluate each group's presentation for accuracy

#### Assessments/Evaluations:

- Formative:
  - Edmodo quizzes and polls
  - Teacher Q & A:
    - Large group discussion
    - Small group checks
  - Metric practice problems
  - Identifying phases of mitosis using computer animations (graphing results)
- Summative:
  - Group presentation over specific type of cancer – assessed using a scoring guide
  - Common Craft video – assessed using a scoring guide
  - Unit test – common assessment from Biology

#### Sample Assessment Questions:

- Why might muscle cells have more mitochondria, while digestive cells have more lysosomes? Discuss why cell structure is related to cell function. (2 points)

<ul style="list-style-type: none"> <li>• Which of the following is a function of the cell membrane?               <ol style="list-style-type: none"> <li>a. Breaks down lipids, carbohydrates, and proteins from foods</li> <li>b. Stores water, salt, proteins and carbohydrates</li> <li>c. Keeps the cell wall in place</li> <li>d. Regulates which materials enter and leave the cell</li> </ol> </li> </ul>
Instructional Resources/Tools: <ul style="list-style-type: none"> <li>• Computer/iPad/projector</li> <li>• Laptops</li> <li>• Microscopes and prepared slides</li> <li>• Meter stick</li> <li>• Biology textbook</li> <li>• Teacher-assigned articles</li> </ul>
Cross Curricular Connections: <ul style="list-style-type: none"> <li>• This is an integrated English and Biology course; all of our projects contain aspects of English and Science</li> <li>• Math:               <ul style="list-style-type: none"> <li>• Measuring to the nearest cm or mm</li> <li>• Converting metric units to an appropriate scale using a constant (calculated) coefficient</li> </ul> </li> </ul>

### **Depth of Knowledge (Section 5)**

DOK: 4
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Curriculum: BioLit (Biology)

Curricular Unit: Living Organisms

Instructional Unit: Z19. **DNA structure and protein synthesis**

### **Standard Alignments (Section 2)**

GLE/CLE: SC3.2.Ea,b; SC3.3.Ba-e

Knowledge: (SC) 3

CCSS: 9-10.RL.1; 9-10.RL.2; 9-10.RL.3; 9-10.RI.1; 9-10.RI.2; 9-10.RI.3; 9-10.RI.7;  
9-10.RI.8; 9-10.RI.9; 9-10.SL.1a-d; 9-10.SL.2; 9-10.SL.3; 9-10.SL.4; 9-10.SL.5;  
9-10.SL.6; 9-10.RST.8

NETS: 1a,b; 2a,b,d; 3b,c; 4a,b; 6a,b

Performance: 1.2, 1.6, 2.1, 3.2

### **Unit (Section 3)**

Learning Targets:

- Explain using evidence how the structure of DNA codes for specific proteins that have essential functions in living things. This includes:
  - DNA structure
  - DNA replication
  - comparing and contrasting RNA and DNA
  - protein synthesis (transcription and translation)
  - non-heritable mutations and mutagens

Instructional Strategies:

- PBL: How to Save a Life – What is the process that allows the sequence of DNA to code for proteins?
  - Students will:
    - learn and apply the structure of DNA and protein synthesis by reading about and “solving” the Nic Volker case. (Nic Volker was the first patient to be diagnosed by sequencing his genome to find a mutation.) The project will include all of the pieces below. The major product will be a skit to show how to explain the diagnosis to Nic and his family
    - work in pairs to create a 3D model of DNA (out of household, craft, or food items) in order to learn the structure of the molecule (checklist)
    - individually explore structure of DNA and mechanism of DNA replication using computer animations
    - use the *Milwaukee Journal-Sentinel*’s Pulitzer Prize-winning interactive digital piece to apply the abstract molecular story of protein synthesis to the life story of a little boy, Nic Volker:
      - Students will:
        - read the story in thirds and answer questions about each section
        - be given a section of Nic’s DNA sequence and a reference sequence to transcribe and translate in order to find the mutation in Nic’s DNA
        - use all of their acquired knowledge to write a script for a skit depicting a healthcare team explaining Nic’s diagnosis to his family

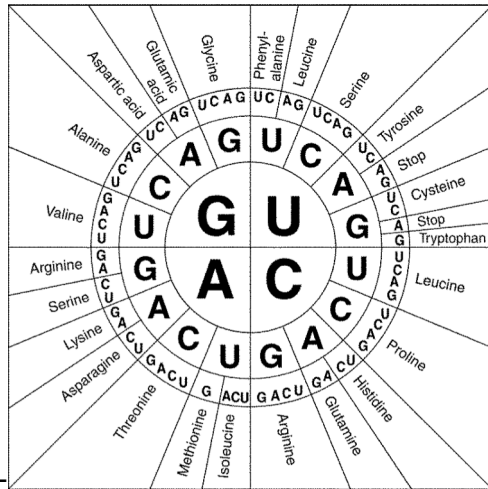
<ul style="list-style-type: none"> <li>• participate in Critical Friends protocol to critique and evaluate each group's presentation for accuracy</li> <li>• The story will also allow them to learn about the rapid technology advancement in genomic biology</li> <li>• Teacher-led: <ul style="list-style-type: none"> <li>• large group discussion about history of the discovery of the structure of DNA (students will take notes in the form of a timeline)</li> <li>• demonstration of protein synthesis using a 2D model in order to help students visualize basics of transcription and translation</li> <li>• protein folding activity using "toobers" to model how primary protein structure determines tertiary protein structure</li> </ul> </li> <li>• Computer animations of transcription and translation</li> <li>• Protein Synthesis Around the Room activity: <ul style="list-style-type: none"> <li>• Students will walk through the processes of transcription and translation by transcribing a given DNA sequence into mRNA at a designated "nucleus spot" then finding a "ribosome" to translate the mRNA sequence into a "protein."</li> <li>• Instead of a sequence of amino acids making a protein, students will use charts to use words to make a sentence. Students can easily see a mutation, or mistake, in the sentence because it won't make any sense</li> <li>• This kinesthetic activity allows students to better understand the abstract process of protein synthesis</li> </ul> </li> </ul>	<p>Assessments/Evaluations:</p> <ul style="list-style-type: none"> <li>• Formative: <ul style="list-style-type: none"> <li>• Teacher Q &amp; A: <ul style="list-style-type: none"> <li>• Large group discussion</li> <li>• Small group checks</li> </ul> </li> <li>• Edmodo quizzes and polls</li> <li>• Protein Synthesis Around the Room activity sheet</li> </ul> </li> <li>• Summative: <ul style="list-style-type: none"> <li>• Final group presentation</li> <li>• Unit test (Common assessment for Biology)</li> </ul> </li> </ul>
<p>Sample Assessment Questions:</p> <ul style="list-style-type: none"> <li>• Adenine::Thymine (Adenine is to Thymine, as _____ is to _____) <ol style="list-style-type: none"> <li>a. protein is to DNA</li> <li>b. Watson is to Crick</li> <li>c. Guanine is to Cytosine</li> <li>d. Adenine is to DNA</li> </ol> </li> <li>• <b>Protein Synthesis.</b> Using the following strand of DNA, show the step-by-step process of how that strand is converted into a protein. Use the chart provided to determine the amino acid sequence. (4 points) <p><b>DNA</b> - TAC AAT TCG GGA CTC GTT ATA GGG CGT ATT</p> <p><b>mRNA</b>- _____</p> </li> </ul>	

tRNA- \_\_\_\_\_  
 Amino Acid Sequence- \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_



#### Instructional Resources/Tools:

- Computer/iPad/projector
- Laptops
- Biology textbook
- “Toobers”
- Protein Synthesis Model (Felt board)
- Teacher-assigned articles

#### Cross Curricular Connections:

- This is an integrated English and Biology course; all of our projects contain aspects of English and Science

### Depth of Knowledge (Section 5)

DOK: 4

Curriculum: BioLit (Biology)

Curricular Unit: Living Organisms

Instructional Unit: Z20. Meiosis and Genetics

### **Standard Alignments (Section 2)**

GLE/CLE: SC3.3.Cb-d; SC3.3Db,c; SC3.3.Ea-c

Knowledge: (SC) 3,8

CCSS: 9-10.RI.1; 9-10.RI.2; 9-10.RI.3; 9-10.RI.7; 9-10.RI.8; 9-10.RI.9; 9-10.W.1a-e;  
9-10.W.2a-f; 9-10.SL.1a-d; 9-10.SL.2; 9-10.SL.3; 9-10.SL.4; 9-10.SL.5;  
9-10.SL.6; 9-10.RST.4

NETS: 1a,b; 2a,b,d; 3b,c; 4a,b; 6a,b

Performance: 1.1, 2.1, 4.1, 4.3

### **Unit (Section 3)**

Learning Targets:

- Investigate to determine how DNA codes for traits that could potentially be passed from parents to offspring. This includes defining the following terms:
  - Autosome
  - Sex Chromosome
  - Homologous ChromosomeThis also includes:
  - predicting the traits of offspring using Non-Mendelian patterns of inheritance (sex-linked traits, incomplete dominance, co-dominance, and polygenic traits)
  - analyzing a pedigree (autosomal dominant and recessive, and sex-linked recessive)
  - constructing and analyzing a karyotype
- Make and defend claims based on evidence that variations in offspring result from (1) two parents combining unique sex cells, and (2) mutations occurring during meiosis. This includes defining the following terms:
  - Aneuploidy
  - Nondisjunction
  - Mutation
  - Independent Assortment
  - Crossing-Over
- Apply Mendel's Laws of Inheritance to predict the variation and distribution of traits in a population. This includes defining the following terms:
  - Homozygous (pure-bred)
  - Heterozygous (hybrid)
  - Dominant allele
  - Recessive allele
  - Genotype
  - Phenotype

- Gene
- Trait

This also includes:

- recognizing Mendel's Laws
- using Punnett Squares to predict probability of traits in offspring

#### Instructional Strategies:

- PBL: Genetics: Should everyone have his or her genome sequenced?
  - This project will focus on heredity and traits and will involve all of the pieces below. The major product will be a group presentation, followed by an individual persuasive research paper
  - Students will:
    - watch computer animations of meiosis and compare and contrast the process with mitosis
    - use existing pedigrees to identify inheritance patterns of various traits in families, such as:
      - dominant
      - recessive
      - sex-linked recessive
    - use technology of their choice to make a group presentation (rubric)
    - participate in Critical Friends protocol to critique and evaluate each group's presentation for accuracy
    - read various articles to gain different perspectives of the ethical issues surrounding technology in the field of genetics while teachers facilitate large and small group discussions
    - research a topic of personal interest in the field of medical ethics and write a persuasive research paper. Peers and teachers will edit rough drafts (rubric)
    - practice Punnett squares for the various inheritance patterns, such as:
      - simple dominance
      - co-dominance
      - incomplete dominance
      - sex-linked inheritance
  - The teacher will:
    - use models to show large group examples of non-Mendelian inheritance. For example:
      - blood type
      - incomplete dominance
      - co-dominance
    - lead a discussion about historical roots of genetics and students will take notes (e.g., Gregor Mendel)
    - show large and small groups examples of each type of Punnett Square and then facilitate individual practice
- Karyotype activity:
  - In pairs, students will construct a karyotype using given "chromosomes" in order to learn a normal chromosome number as well as various aneuploidy disorders
  - The teacher will facilitate pairs

<ul style="list-style-type: none"><li>• Baby Face activity: Students will explore the basics of:<ul style="list-style-type: none"><li>• probability</li><li>• inheritance patterns</li><li>• phenotype expression in human genetics</li></ul></li></ul>				
Assessments/Evaluations: <ul style="list-style-type: none"><li>• Formative:<ul style="list-style-type: none"><li>• Edmodo quizzes and polls</li><li>• Punnett Square practice sheets</li><li>• Teacher Q &amp; A:<ul style="list-style-type: none"><li>• Large group discussion</li><li>• Small group checks</li></ul></li></ul></li><li>• Summative:<ul style="list-style-type: none"><li>• Group presentation</li><li>• Unit test (Common assessment for Biology)</li></ul></li></ul>				
Sample Assessment Questions: <ul style="list-style-type: none"><li>• Flowers often exhibit phenotypes that are <b>“in-between”</b> or a blend of two dominant colors. If a red tulip is crossed with a white tulip, what is the probability of producing a pink tulip? Use the Punnett square to solve the problem.</li></ul> <div><div>Genotype of the red tulip:_____</div><div>Genotype of the white tulip:_____</div><div><table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table></div></div> <ul style="list-style-type: none"><li>• The probability of yielding a pink tulip:_____</li></ul>				
Instructional Resources/Tools: <ul style="list-style-type: none"><li>• Computer/iPad/projector</li><li>• Laptops</li><li>• Blood Cell models</li><li>• Biology textbook</li><li>• Teacher-assigned articles</li></ul>				
Cross Curricular Connections: <ul style="list-style-type: none"><li>• This is an integrated English and Biology course; all of our projects contain aspects of English and Science</li><li>• Math:<ul style="list-style-type: none"><li>• Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations</li><li>• Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events ("or," "and," "not")</li></ul></li></ul>				

## **Depth of Knowledge (Section 5)**

DOK: 4
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Curriculum: BioLit (Biology)

Curricular Unit: Living Organisms

Instructional Unit: Z21. Macromolecules, Photosynthesis, Cellular Respiration

### Standard Alignments (Section 2)

GLE/CLE: SC3.2.Ba,b; SC3.2.Da-e; SC7.1.Aa-d,f,g; SC7.1.Ba-e; SC7.1.Ca-d  
Knowledge: (SC) 3,7,8  
CCSS: 9-10.RL.1; 9-10.RL.2; 9-10.RL.3; 9-10.RI.1; 9-10.RI.2; 9-10.RI.3; 9-10.RI.7;  
9-10.RI.8; 9-10.RI.9; 9-10.SL.1a-d; 9-10.SL.2; 9-10.SL.3; 9-10.SL.4; 9-10.SL.5;  
9-10.SL.6; 9-10.RST.3; 9-10.RST.7; 9-10.RST.9  
NETS: 1a,b; 2a,b,d; 3b,c; 4a,b; 6a,b  
Performance: 1.1, 1.3, 1.8, 2.1, 3.3

### Unit (Section 3)

Learning Targets:

- Design and perform an experiment. This includes:
  - differentiating among hypothesis, theory, and law
  - identifying independent and dependent variables
  - defining and identifying constants and controls
  - using the metric system to make quantitative measurements and converting between units
  - making qualitative observations and inferences
  - making and analyzing graphs and data tables
  - drawing logical conclusions based on data
- Explain how atoms of carbon, hydrogen, and oxygen can combine to form sugars and how they may combine with atoms of other elements to make large carbon-based molecules such as fats, proteins and nucleic acids. This includes:
  - differentiating between the major classes of organic molecules
  - explaining the activity and energy dynamics of enzymes using graphs
- Demonstrate or model how organisms turn stored energy in food into cellular energy to power life processes. This includes:
  - describing where cellular respiration occurs in cells
  - describing the importance of oxygen
  - describing the role of ATP in the cell
- Model how the process of photosynthesis turns light energy into stored food energy in plants. This includes:
  - describing where photosynthesis occurs in cells
  - describing the role of pigments in photosynthesis
  - evaluating factors that affect the rate of photosynthesis



- Describe the transfer of energy and matter within living systems and their environment. This includes describing the relationship between photosynthesis and cellular respiration

Instructional Strategies:

- PBL: What's for Lunch: How do we, as students, create a plan to implement a self-sustaining nutritionally balanced school food program?
  - Students will:
    - complete a project to answer the above question that will include all of the pieces below. The major product will be a group presentation
    - read assigned articles on self-sustaining school food programs and start researching school food standards in small groups
    - explore assigned computer animations/simulations of photosynthesis and answer analysis questions
    - write a lab report in small groups detailing their photosynthesis experiment (rubric)
    - explore the four major classes of biological molecules (Carbohydrates, Proteins, Lipids, and Nucleic Acids) through computer animations and teacher-led discussion
    - use knowledge of biological molecules to research nutrition requirements of teenagers and plan healthy balanced meals that a self-sustaining school could serve to students
    - explore computer animations/simulations about cellular respiration and ATP and individually answer analysis questions
  - In small groups, students will design and conduct an experiment to investigate a chosen factor that may affect the rate of photosynthesis. This includes:
    - doing background research
    - establishing:
      - variables
      - constants
      - a control
    - collecting data over a given period of time
  - The teacher will:
    - lead a discussion on the basics of photosynthesis and the students will take notes
    - model measuring skills using the metric system so that students can use these skills during experiments
- Cellular Respiration lab: The teacher will facilitate a lab activity to demonstrate how food is turned into cellular energy and used by the body under different conditions. Students will:
  - compare and contrast aspects of photosynthesis and cellular respiration using tables/charts
  - use technology of their choice to make group presentations
  - participate in Critical Friends protocol to critique and evaluate each group's presentation for accuracy

<p>Assessments/Evaluations:</p> <ul style="list-style-type: none"> <li>Formative: <ul style="list-style-type: none"> <li>Edmodo quizzes and polls</li> <li>Teacher Q &amp; A: <ul style="list-style-type: none"> <li>Large group discussion</li> <li>Small group checks</li> </ul> </li> </ul> </li> <li>Summative: <ul style="list-style-type: none"> <li>Lab report</li> <li>Group presentation</li> <li>Unit test (Common assessment from Biology)</li> </ul> </li> </ul>
<p>Sample Assessment Questions:</p> <ul style="list-style-type: none"> <li>How are cellular respiration and photosynthesis almost opposite processes? <ol style="list-style-type: none"> <li>Photosynthesis releases energy, and cellular respiration stores energy</li> <li>Photosynthesis removes carbon dioxide from the atmosphere, and cellular respiration puts it back</li> <li>Photosynthesis removes oxygen from the atmosphere, and cellular respiration puts it back</li> <li>all of the above</li> </ol> </li> </ul>
<p>Instructional Resources/Tools:</p> <ul style="list-style-type: none"> <li>Computer/iPad/projector</li> <li>Laptops</li> <li>Excel</li> <li>Materials for plant experiment</li> <li>Biology textbook</li> <li>Teacher-assigned articles</li> </ul>
<p>Cross Curricular Connections:</p> <ul style="list-style-type: none"> <li>This is an integrated English and Biology course; all of our projects contain aspects of English and Science</li> </ul>

### **Depth of Knowledge (Section 5)**

DOK: 4
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Curriculum: BioLit (Biology)

Curricular Unit: Ecosystems

Instructional Unit: Z22. Ecology

### **Standard Alignments (Section 2)**

GLE/CLE: SC4.1.Aa-c; SC4.1.Ba,b; SC4.1.Ca,b; SC4.1.Da,b; SC4.2.Aa-c; SC4.2.Ba,b  
Knowledge: (SC) 3,4,8  
CCSS: 9-10.RL.2; 9-10.RL.3; 9-10.RI.1; 9-10.RI.2; 9-10.RI.3; 9-10.RI.7; 9-10.RI.8;  
9-10.RI.9; 9-10.SL.2; 9-10.SL.3; 9-10.SL.4; 9-10.SL.5; 9-10.SL.6; 9-10.RST.7  
NETS: 1a,b; 2a,b,d; 3b,c; 4a,b; 6a,b  
Performance: 1.1, 1.3, 1.8, 2.1, 3.3

### **Unit (Section 3)**

Learning Targets:

- Describe the transfer of energy and matter within living systems and their environment. This includes:
  - explain the 10% Rule of energy transfer between trophic levels
  - contrast the flow of energy with the cycling of nutrients in an ecosystem
- Make and analyze a graph to explain how limiting factors affect carrying capacity and predict changes in biodiversity and population size. This includes:
  - exponential and logistic growth
  - density-independent and density-dependent limiting factors
  - human demography
- Describe the interactions in ecosystems during relatively stable conditions. This includes:
  - ecosystem structure (biotic versus abiotic features, habitat versus niche)
  - food webs, food chains, and trophic pyramids
  - competition and predator/prey relations
  - symbiotic relationships (mutualism, commensalism, parasitism)
- Identify and discuss potential and significant disruptions to an ecosystem. This includes:
  - the removal or addition of organisms to an ecosystem
  - the relative danger of biological magnification
  - modes of ecological succession
  - humans' impact on the environment
  - renewable and nonrenewable resources

#### Instructional Strategies:

- PBL: A Whole New World
- Students will:
  - learn material through the task of creating a website for a recently discovered fictional planet and society. The major product is a student-created website
  - explore biogeochemical cycles using assigned websites and answer analysis questions
  - take the role of explorers/scientists and work in small groups to create a website for a planet/society of their imagination. (rubric and checklist)
  - participate in Critical Friends protocol to critique and evaluate each groups' website for accuracy
- Activities:
  - Levels of Organization: The teacher will lead students through a pre-test and then process of learning/correcting the different levels of living things to better understand the structure of an ecosystem
  - Symbiosis: The teacher will facilitate as the students learn different types of relationships in the ecosystem by individually creating analogies for each type of relationship
  - Food Chain and Food Web: The teacher will facilitate as the students create food chains and a food web to learn the way energy is transferred through an ecosystem
  - Ten Percent Rule: The students will model food chains of different lengths using water, buckets, and cups to calculate how much energy is lost in a food chain
- Large group discussions, facilitated by the teachers, following videos about human population growth over time
- Teacher-led lecture/discussion about limiting factors of populations

#### Assessments/Evaluations:

- Formative:
  - Edmodo quizzes and polls
  - Pre-test
  - Teacher Q & A:
    - Large group discussion
    - Small group checks
- Summative:
  - Website
  - Unit test (Common assessment from Biology)

#### Sample Assessment Questions:

- Which of the following represents that a population has reached its carrying capacity?
  - a. Population growth rapidly increases
  - b. The population becomes extinct
  - c. Population growth becomes steady as birth rates equal death rates
  - d. A population triples in size
- Clover plants, rabbits, and coyotes are some of the organisms that occupy a particular ecosystem. Assign the roles of producers, primary consumers, and secondary consumers to these three groups of organisms and draw and label a **trophic pyramid** to represent the relative energy in each trophic level. (4 pts)

Instructional Resources/Tools:
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| <ul style="list-style-type: none"><li>• Computer/iPad/Projector</li><li>• Laptops</li><li>• Website creator/host (e.g., Wix)</li><li>• Biology textbooks</li><li>• Teacher-assigned articles</li></ul> |
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Cross Curricular Connections:
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| <ul style="list-style-type: none"><li>• This is an integrated English and Biology course; all of our projects contain aspects of English and Science</li></ul> |
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<b>Depth of Knowledge (Section 5)</b>
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DOK: 4
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