

Biology English Cross Curricular Integration

UNIT	ESSENTIAL QUESTION	BIO TOPICS	LITERACY STRATEGIES	ELA CORE TEXTS AND TOPICS	ASSESSMENTS
1	HOW WOULD YOU DESCRIBE YOUR CELL(F) FROM THE INSIDE OUT?	<p>Cell</p> <ul style="list-style-type: none"> -Characteristics of Life -Plant versus Animal Cells -Organelles and Functions -Membrane Transport -Cancer -Microscopes 	Reading & Vocabulary Acquisition	<p>Alt. Forms of Communication</p> <ul style="list-style-type: none"> -<i>The Metamorphosis (Graphic Novel)</i> – F. Kafka -<i>Bronx Masquerade</i> – N. Grimes -Internal vs. External Voice 	Formative Summative Cross-Curricular Project
2	DO I CONTROL SYSTEMS OR DO SYSTEMS CONTROL ME?	<p>Body Systems</p> <ul style="list-style-type: none"> -Specific body systems and tissues -Levels of organization -Current medical practices, complications, careers 	Writing & Listening	<p>Dystopia</p> <ul style="list-style-type: none"> -Literature Circles -<i>Rash</i> – P. Hautman -<i>The Limit</i> – K. Landon -<i>Trash</i> – A. Mulligan -<i>Unwind</i> – N. Shusterman 	Formative Summative Cross-Curricular Project
3	WHO AM I AND CAN I BE CHANGED?	<p>Genetics</p> <ul style="list-style-type: none"> -Structure and function of DNA -Biotechnology -Cloning -GMO's -DNA Fingerprinting 	Speaking & Viewing	<p>Debate and Persuasive Writing</p> <ul style="list-style-type: none"> -<i>The Sixth Day</i> (movie) 	Formative Summative Cross-Curricular Project
4	WHAT HAPPENS WHEN THE RULES OF "THE GAME" CHANGE?	<p>Evolution</p> <ul style="list-style-type: none"> -Tree of Life -Darwin's Theory of Natural Selection -Scientific Evidence 	Representing	<p>Characterization</p> <ul style="list-style-type: none"> -<i>Lord of the Flies</i> – W. Goldman 	Formative Summative Cross-Curricular Project
5	WHAT DESERVES TO BE SAVED?	<p>Ecology</p> <ul style="list-style-type: none"> -Organism relationships -Food chains & webs -Biomes 	Reading, Vocabulary Acquisition, Writing, Listening, Speaking, Viewing, & Representing	<p>Research and Informational Text</p> <ul style="list-style-type: none"> -Pamphlet Writing w/ an Ecological Focus 	Formative Summative Cross-Curricular Project
6	WHAT DO I OWE MY COMMUNITY / ENVIRONMENT – OR DO I?	<p>Sustainability</p> <ul style="list-style-type: none"> -Plants & Human Affairs -Sustainable practices -Environmental Impact 	Reading, Vocabulary Acquisition, Writing, Listening, Speaking, Viewing, & Representing	<p>Interpersonal Communication</p> <ul style="list-style-type: none"> -Advocacy Project 	Formative Summative Cross-Curricular Project

BECCI Unit One- Summative Assessment

How would you describe your (cell)f from the inside out?

Know: Students will know terms and concepts related to the cell, character development and identity.

Understand: Students will understand that cellular functions are essential for life and character development and identity are critical elements of all texts.

Do: Students will produce an authentic product using analogies and metaphors to identify concepts related to the cell and essential literary elements.

Directions: Choose **ONE** of the following projects to share your learning

Objectives:

- To describe your cell(f) from the inside out using terms and concepts studied in your English and biology classes.
- Use metaphor and analogy to understand scientific concepts.

Directions: Choose **ONE** of the following projects to share your learning with the class. You may propose to your BECCI teachers to work in a pair, but you should have a good and compelling reason to do so.

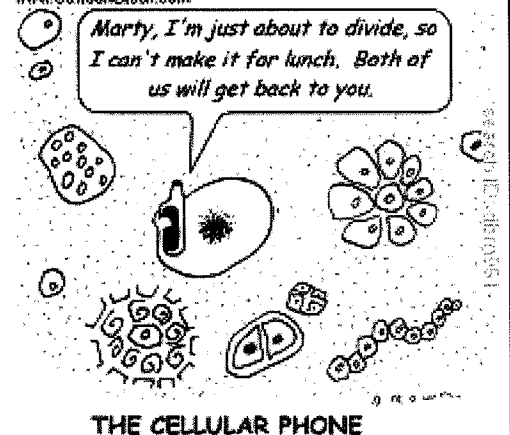
1. **Bio Masquerade (Partner or Individual):** Mimic the style of *Bronx Masquerade* to create a journal/poetry portfolio connected to the Biology terms from Unit One. You will personify each term through a journal entry that describes its life and purpose, and then create a poem that exemplifies its role. You will utilize, underline, and label a minimum of 4 of the literary terms we discussed throughout the unit (see list). You need entries for 4 biology terms (that means 4 journal/poem combinations). Please make the biology term the title of your journal entry!

2. **Rockin' the Cell(f) (Partner or Individual):** You will create **two** iTunes play lists including seven songs each. One play list will be for characters from either *Bronx Masquerade* or *The Metamorphosis*. Your playlist should focus on only **ONE** book. The other playlist will be for the **SEVEN** organelles from a plant cell. Each song should connect with either the different organelles or aspects of the characterization. You should **EXPLAIN** how these songs connect with the identity of the characters/organelles. In addition to your profile, you should submit a one-page reflection explaining your creative process.

3. **Cell and my metamorphosis (Individual):** Compare your evolving self to your cellular self. Identify and define the function of seven organelles (for the plant cell). You will also provide seven moments of your life/people/places/things/events that contributed to the development of your identity. You have the choice to create **EITHER** a chart that links these connections, or you can create images that represent each connection. You will need to **EXPLAIN** how the organelle function connects with the significant aspect of your life — we have some great examples (i.e. cellular wall to your circle of friends on the first day of high school).

4. **Create a "One Better" Project ...** that is meaningful to you using 7 English and biology terms. For this option you must write a brief one to two paragraph project proposal which includes your project objectives. This must be turned in **tomorrow!** You may use the BECCI project rubric or create your own. Please see me with questions and idea.

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Unit One: Rubric

Student Name:	Project Title:		
Assessment Dimension (Baseball Analogies)	Foul ball out of play (Developing) 3	Standing double (Approaching) 6	Grand slam (Strong) 10
1. All students can articulate cellular structure and function. Is this proven in student analogies? <i>Biological Aspect</i>	Few metaphors and analogies are clear, concise and accurate. The student articulates a clear understanding of the organelle(s)'s function.	Most metaphors and analogies are clear, concise and accurate. The student articulates a clear understanding of the organelle(s)'s function.	All metaphors and analogies are clear, concise and accurate. The student articulates a clear understanding of the organelle(s)'s function.
2. All students understand that metaphor and analogy exists in both poetry and biology. Does the student reveal their individuality through their analogies? <i>English Aspect</i>	The student fails to include significant elements. There is no clear sense of who this student and/or character is or how they are unique.	The student includes vague information and details that are not fully developed—there is only a generic or half developed identity revealed.	The student includes information and details that reveal the individuality of the student and/or character. We learn something we didn't know before about this student and/or character.
3. Vocabulary Do students correctly incorporate and use their cellular vocabulary? <i>Literacy Aspect</i>	No Organelles Correct = 0pts One (few) organelle = 3pts	Two (most) organelles correct = 5pts Three (most) organelles correct = 6pts	Four organelles correct = 7pts Five organelles correct = 8pts Six organelles correct = 9pts Seven organelles correct = 10pts
4. CREATIVITY & EFFORT Does the project reflect an original and thorough attempt? <i>Biology, English & Literacy Aspect</i>	The student either failed to complete the project or completed a project without creative investment or little development.	The student fails to include either a unique perspective or reveals any thorough development/planning.	The student demonstrates thinking that is "outside the box" and was clearly thought out, planned, and developed.
5. DRAFTS & REVISIONS Was their evidence that your work evolved from workshops and instructor feedback over the duration of the course? <i>Biology, English & Literacy Aspect</i>	No significant edits made from drafts presented in class workshops.	Some edits made from draft could have used some more thoughtful revisions.	Clear rework of drafts with major meaningful edits /cuts compressions & additions. Final product is completely typed.
6. PRESENTATION & MECHANICS Completeness, Organization, Spelling, Grammar, Design & Gestalt <i>English Aspect</i>	Few unit elements are present. Numerous grammar or sentence structure errors. In need of further organization, design and presentation.	Most unit elements are present. Some grammar or sentence structure errors. Adequate organization, design and presentation.	All unit elements are present. Few or no grammar or sentence structure errors. Superior organization, design & presentation.
TOTALS (X2) /120			

Comment:

Unit One Project Calendar

	Biology	English
Thursday, September 19th (1 period)	-Together to Intro Project -Work on Project	-Together to Intro Project -Work on Project
Friday, September 20th (1 period)	-Science Test	-Work on Project
Monday, September 23rd (2 periods)	-Work on Project	-Work on Project

BECCI Unit One- Summative Assessment
How would you describe your (cell) from the inside out?

English Terms

Johari Window
 Hidden self
 Blind self
 Open self
 Unknown self
Self Awareness
Identity
Identity Management
Characterization
 Direct and Indirect
Imagery
Point of View
 First person
 Third Person Objective
 Third Person Omniscient
Theme
Symbolism
Inference
Irony
Allusion
Mood
Imagery
Simile
Metaphor
Hyperbole
Personification
Alliteration
Assonance
Consonance

Biology Terms

Nucleus
Cytoplasm
Chloroplast
Mitochondria
Cell Wall
Vacuole
Cell Membrane
Prokaryote
Eukaryote
Organelle
Chemical
Disease
Cancer
Hormone
Cell cycle
Metastasis
HeLa Cells
Biology
Growth
Development
Homeostasis
Metabolism
Evolve/Evolution
Cell
DNA
Microscope Terms

Rockin' The Cell

Cell Organelle	Song Artist, Title	Rational
1 Lysosome	Metallica, "Seek & Destroy"	The lyrics in Seek & Destroy include "We are scanning the scene, in the city tonight. We're looking for you, to start up a fight." This is very much like what a lysosome might say, since lysosomes are organelles that breakdown waste materials and foreign particles inside a cell. Lysosomes are filled with powerful enzymes that dissolve or "fight" bad particles.
2 Nucleolus	Roger Berg Band, "Sing, Sing, Sing"	This song starts out with a few instruments and keeps building in beats, rhythms, and number of instruments. A nucleolus is a non-membrane bound structure which implies it is free flowing very much like the music flow of the song. The song keeps building just like a nucleolus in a cell keeps building ribosomal RNA.
3		
4		
5		
6		
7		

Character in Metamorphosis:	Song Artist, Title	Rational
1 Gregor	Fleetwood Mac, "Landslide"	The song Landslide discusses how a person is reflecting on their life from a different point of view. Gregor is forced to reflect on his life when he is trapped as a bug without being able to express himself. The song lyrics include, "Can I sail through the changing ocean tides? Can I handle the seasons of my life?" Gregor also asks himself similar questions when he is unable to understand his metamorphosis.
2		
3		
4		
5		
6		
7		

Don't Forget About Your One Page Reflection!!!

Cell and my metamorphosis

The key is a GOOD explanation! This is a metaphor that needs to make sense to both the teacher and your self. We encourage you to do this on a larger piece of paper (we will have poster board for you!). Don't forget you can draw the personal event and cell organelle, but you must provide a clear written explanation.

Personal event	Cell organelle	Explanation
First day of school through my last day of high school.	Nucleolus	Attending school helped lay the foundations for my future goals and my success in college. My elementary and high school education are similar to the nucleolus because it helps build my ribosomes, which will produce my "protein" that I develop in college. Both my school and the <u>nucleolus</u> create something used in the future.
Attending Millikin University	Ribosomes	While at college, I feel that I gained all the essential knowledge/ "protein" that I would need to survive my adult life. College helped make all my knowledge that I use everyday, which is similar to the <u>ribosomes</u> that produce the protein.
My family attending my first swim meet	Cytoskeleton	When my family attended my swim meet, I realized that they supported my actions and encouraged my participation in sports. My family supports my movement and maintains my participation in the sport just like the <u>cytoskeleton</u> does for the cell.

Chankara Troupe

I am not in the mood for Tyrone's sorry "Baby, gimme some loving" routine, so when I see him in the hall, I storm past as if he's not even there. Eventually, he'll figure out why.

I come to school sporting shades and a johnny-print across my left cheek, Johnny being the name of the idiot who smacked me last night. Naturally, Porscha is the first person who notices my new tattoo. She walks straight up to me and says, "You deserve better, girlfriend. And you know it." No hello. No how are you. Just: "You deserve better." Then she turns away and walks into the classroom. Typical Porscha. No nonsense. That's why we get along.

Then here comes Sheila Gamberoni. The minute she sees me, she demands to know the name of the guy who gave me my shiner, like she's gonna send her brothers after him or something. I keep his name to myself, just in case. She commences to call the guy everything but a child of God, which makes her feel

better, I think, then gives me a hug and says she'll see me later. Sheila is a bit over the top with this sister act, as if she's trying to make up for being white, but she means well. I can do without some of the other girls who stare at me, though. I know they're just looking for something to talk about, so I rip off my sunglasses, let them get a better look. *Might as well stare all you want. This is the first and last time you'll ever see me like this.*

Of course, that's what they all say. Nobody knows that better than me. My sister's boyfriends have been beating on her for years. I made up my mind a long time ago, I'm not having none of that.

Last night I tried telling this to Johnny, who seems to be hard of hearing. He'd brought me home from a movie. He came in for a while, got comfortable since Mom was working overtime and we had the apartment to ourselves. We locked lips for a few minutes. Next thing I know, he's fingering my shirt buttons. I push him away, gently at first. "I think we better slow down," I say. "No, no," he says, voice all husky. "It's just getting good." This time, his hand shoots up my skirt. Bad move. I jump off the sofa like it's on fire. "Maybe it's time for you to go." He grabbed my skirt and tried pulling me back down, which is right about when I hauled off and smacked him. He leaped up and smacked me back.

My jaw dropped from shock, and I looked in his eyes and saw my sister's reflection.

I turned away, strode to the door, unlocked it, and held it open for him.

"I hope you enjoyed yourself," I said, "'cause that's the last time you'll ever lay a hand on me. Now get out!" He actually looked like he was studying on staying, so I stepped out into the hall and screamed at the top of my lungs, "I said get out!" Fearing trouble, he left.

Now I've got this ugly tattoo on my cheek. I thought about skipping school today, but I hate to miss English. Besides, the bruise is temporary and so is the pain. Still, I'd rather not have kids gawking at me all period, so I park myself in the back of the room and wait for Mr. Ward to call our English class to attention.

Mr. Ward is funny. Sometimes he asks us a question with no warning, and tells us to answer quick, without stopping to think about it. The truth is always right on the tip of your tongue, he says. It's the fabrications that take a lot of time. Yesterday he asked us: "What do you know?" Yesterday I said my name, but today would be different. Today I'd tell him a woman ain't no punching bag. That's what I know.

OPEN MIKE

BRUISED LOVE

BY CHANKARA TROUPE

*A midnight thirst sent me
padding to the kitchen
for a jelly-jar of water
and an accidental run-in
with my sister.
She tiptoed in, late
and limping, her cheek
raw as red-brown meat.
I caught a quick glance
in the chilly glow
of the refrigerator
before she had
a chance to hide
the latest souvenir
her boyfriend gave her.
"I bruise easily"
is one of the lies
she sprinkles like sugar.
But I'm fifteen,
not brainless. Besides,
I knew the truth at ten.*

*"He'll never do it again,"
she swears.
But he will, because
she'll let him.
Now, me?
I've got no use
for lame excuses
or imitation love
that packs
a punch.*

Tyrone

My pops used to hit my moms like that.

When I was little, I used to hide under my bed and cry, scared he was coming for me next. Damn, I ain't thought about that in years. How could you do that, Pops? I don't get it. Is that why he hung around? So he'd have somebody smaller than him to beat up on? I don't even want to go there. I'm just glad he finally stopped drinking and cleaned up his act before he checked out. It gave us a chance to have some good times together.

Chankara was the third one up today. Her stuff was so deep, nobody wanted to follow her. There weren't but two more people planning to read anyway, including me. We both decided to bag it 'til the next Open Mike.

Meanwhile, I'm going to be busy writing me a rap about dudes beatin' on women. I'll call it "Little Men," 'cause that's what they are.