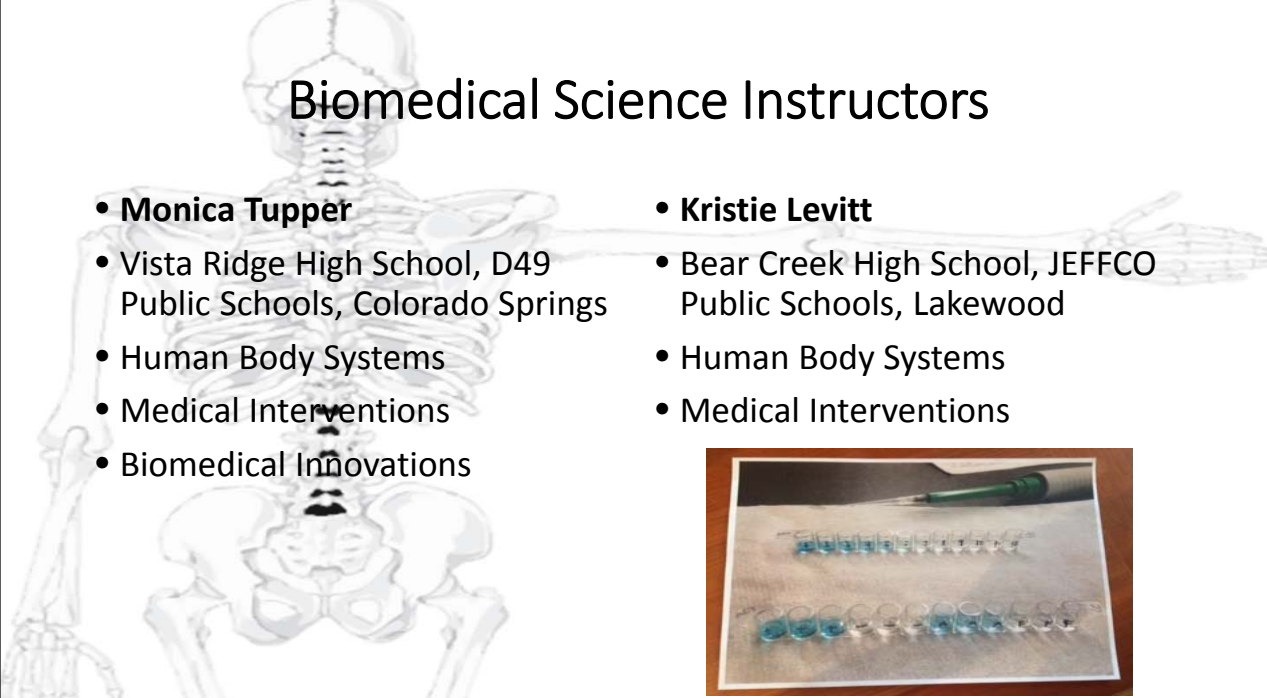


Colorado PLTW Conference

Building a Strong Backbone for STEM Education


UCCS Online & Academic Outreach
UNIVERSITY OF COLORADO COLORADO SPRINGS

Colorado **PLTW**
PROJECT LEAD THE WAY



Biomedical Science Instructors

- **Monica Tupper**
 - Vista Ridge High School, D49 Public Schools, Colorado Springs
 - Human Body Systems
 - Medical Interventions
 - Biomedical Innovations
- **Kristie Levitt**
 - Bear Creek High School, JEFFCO Public Schools, Lakewood
 - Human Body Systems
 - Medical Interventions



Real World Biomedical Examples

- HBS: Russian volunteer for world's first head transplant seeks funding to meet US surgeon
- MI: How a "bindi" has become a medical version of wearable technology to combat iodine deficiencies for women in India



FREE Program – In Class or Onsite Visit

DONOR ALLIANCE
Organ & Tissue Donation

Why Donate Our Stories Donor Families About Us Volunteer Events and Programs News & Info

Recycle Yourself Colorado Colorado's Donate Life License Plate Driver's License Office Outreach Guy Vroom Donor Dash
Workplace Partnership for Life Transplantation Science



TRANSPLANTATION SCIENCE

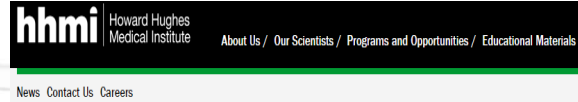
Transplantation Science is a FREE program for 7th through 12th graders meant to enhance any anatomy, health or biology program and to introduce students to the world of organ, eye and tissue donation and transplantation. The Transplantation Science curriculum was created by experts in the field and promises to deliver a top-notch, hands-on educational experience for teachers as well as students.

Transplantation Science students have the chance to:

- Learn about each transplantable organ and how it functions;
- Examine real, plastinated organ and tissue specimens from the human body;
- Learn about the conditions leading to the need for a transplant;
- Learn how organ allocation works and complete exercises to match example donors and recipients;

Howard Hughes Medical Institute

- FREE educational resources for teachers – excellent videos, image of the week, posters, and curriculum guides, etc.
- “Vaccines – Calling the Shots”
- “Viral Outbreak – The Science of Emerging Disease”
- “Potent Biology – Stem cells, Cloning and Regeneration”
- “Your Inner Fish”



At the Howard Hughes Medical Institute, we believe in the power of **individuals** to advance science through **research** and **science education**, making discoveries that benefit humanity. Learn more about how we move **science forward**.

Colorado AHEC

- Connecting Students to Healthcare Careers, Professionals to Health Care Students, and communities to better Health
- <http://www.centralcoahec.org/aboutus.htm>



Book Retriever App

- Manage your book/resource checkout for your HOSA Library
- 99¢ for the App



www.signupgenius.com

- Keep track of all of your volunteers or attendees for scheduled events
- Fill time slots
- Potluck style

Vista Ridge HOSA
COMPETITIVE EVENTS ROUND TABLE AND PIZZA PARTY

Come and enjoy some pizza while learning about all the competitive events you can compete in. Learn the general rules and get help deciding what events you would like to compete in this year.

I will provide the pizza, but we will need napkins, plates, cups, drinks, desserts, etc. Make sure you specify what you would like to bring in your sign up.

DATE: 10/27/2015 (Tue 2:45PM - 4:10PM MDT)
 LOCATION: G108

CREATED BY: Monica Tupper CONTACT

MY RSVP

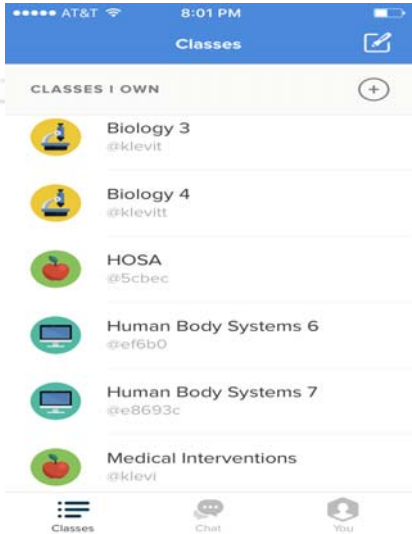
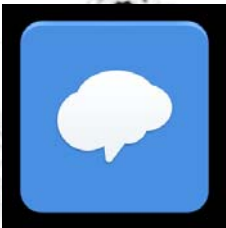
You are logged in as Monica Tupper.
 There is no RSVP for this account.
[RSVP NOW](#)

RSVP RESPONSES

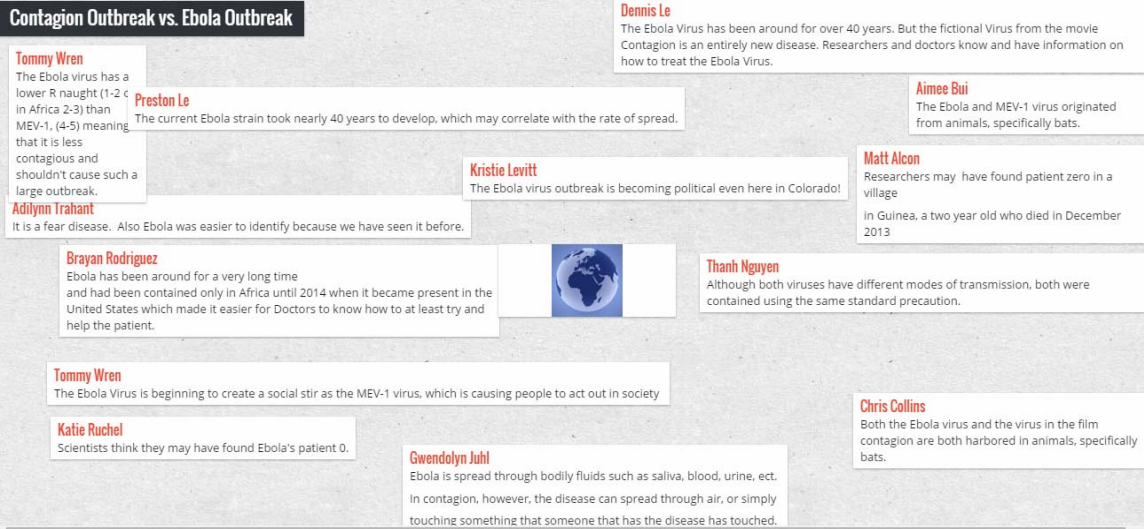
Responses: Yes: 0 No: 0 Maybe: 0 No Response: 10
 Guest Count: Confirmed: 0 Maybe: 0
 NO RESPONSE (10)

Remind App

- Free, safe and simple way to connect with students and parents via text messages
- You can text them, but they cannot text you back

Padlet App – The easiest way to create and collaborate in the world



Contagion Outbreak vs. Ebola Outbreak

Tommy Wren
The Ebola virus has a lower R naught (1-2 c in Africa 2-3) than MEV-1, (4-5) meaning that it is less contagious and shouldn't cause such a large outbreak.

Preston Le
The current Ebola strain took nearly 40 years to develop, which may correlate with the rate of spread.

Adilynn Trahant
It is a fear disease. Also Ebola was easier to identify because we have seen it before.

Brayan Rodriguez
Ebola has been around for a very long time and had been contained only in Africa until 2014 when it became present in the United States which made it easier for Doctors to know how to at least try and help the patient.

Tommy Wren
The Ebola Virus is beginning to create a social stir as the MEV-1 virus, which is causing people to act out in society

Katie Ruchel
Scientists think they may have found Ebola's patient 0.

Gwendolyn Juhl
Ebola is spread through bodily fluids such as saliva, blood, urine, ect. In contagion, however, the disease can spread through air, or simply touching something that someone that has the disease has touched.

Dennis Le
The Ebola Virus has been around for over 40 years. But the fictional Virus from the movie Contagion is an entirely new disease. Researchers and doctors know and have information on how to treat the Ebola Virus.

Kristie Levitt
The Ebola virus outbreak is becoming political even here in Colorado!

Matt Alcon
Researchers may have found patient zero in a village in Guinea, a two year old who died in December 2013

Aimee Bui
The Ebola and MEV-1 virus originated from animals, specifically bats.

Thanh Nguyen
Although both viruses have different modes of transmission, both were contained using the same standard precaution.

Chris Collins
Both the Ebola virus and the virus in the film contagion are both harbored in animals, specifically bats.

Medical Interventions – TED Talk: Prosthetics

- **Hugh Herr: The new bionics that let us run, climb and dance**
- Herr lost both legs in climbing accident 30 years ago; now he is head of the MIT Media Lab's Biomechantronics group
- **Adrienne Haslet-Davis**, ballroom dancer who lost her left leg in the 2013 Boston Marathon bombing



Other Cool TED Talks

- **Jill Bolte Taylor**
 - My stroke of insight
 - Studied her own stroke as it happened
 - Great for HBS
- **Bonnie Bassler**
 - How bacteria "talk"
 - Discusses how bacteria use chemicals to talk- Quorum sensing
 - Great for MI



The Power of the Checklist

- Students receive at the beginning of every activity/ project
- A simple outline of the work to be completed
- Helps you to grade consistently
- Helps students understand what is expected to be turned in
- Forces you to read through the assignment completely
- Careful: Update them, students try to use independently

Name: _____

1.1.3- Effective Presentations

Due Date: _____

Part I: Visual Presentation

- Slide Notes (10 pts) _____
- Guidelines for presentations (10 pts) _____
- 3 slide Presentations (9 pts) _____

Part II: Oral Presentation




- Strengths and weaknesses (3 pts) _____
- Tips for Presentation (10 pts) _____
- Praise and Polish form (10 pts) _____

Conclusion Questions (8 pts) _____

Total out of 60 pts _____

100 % Paperless- Checklist on the LMS

- Use the rubric setting to keep your grading on track on-line
- At the bottom of every assignment in the LMS

1.1.2- Checklist   

You've already rated students with this rubric. Any major changes could affect their assessment results.

Criteria	Ratings	Pts
Pro/Con using Internet for research view longer description	This area will be used by the assessor to leave comments related to this criterion.	5 pts
Credibility Check	This area will be used by the assessor to leave comments related to this criterion.	3 pts
SRS	This area will be used by the assessor to leave comments related to this criterion.	35 pts
2 Reliable Articles view longer description	This area will be used by the assessor to leave comments related to this criterion.	5 pts
Article Summary view longer description	This area will be used by the assessor to leave comments related to this criterion.	10 pts
Conclusion Questions	This area will be used by the assessor to leave comments related to this criterion.	8 pts
Total Points: 66		

Checklist: Infection Outbreak Resources

	Symptoms	Pathogen	Lab Test	Diagnosis	Treatment
Sue					
Jill					
Anthony					
Wanda					
Maggie					
Maria					
Arnie					
Marco					
Alvin					

What is contact tracing?
 Contact tracing can stop the Ebola outbreak in its tracks.

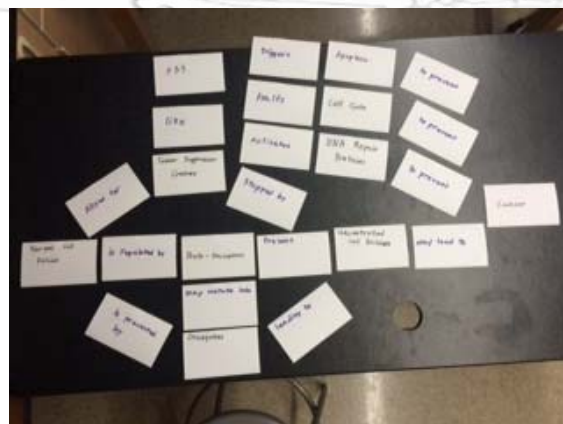
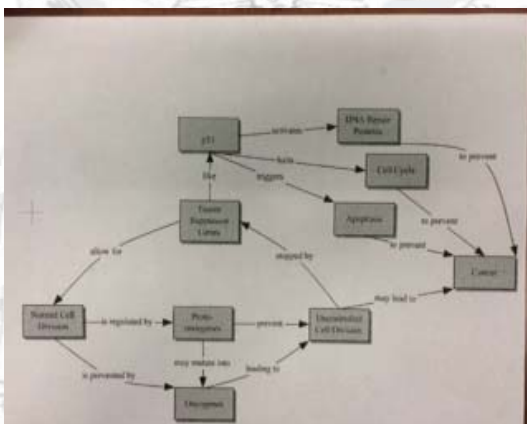
Contact tracing is finding everyone who comes in direct contact with a sick Ebola patient. Contacts are watched for signs of illness for 21 days from the last day they came in contact with the Ebola patient. If the contact develops a fever or other Ebola symptoms, they are immediately isolated, tested, provided care, and the cycle starts again—all of the new patient's contacts are found and watched for 21 days. Even one missed contact can keep the outbreak going.

Contact tracing finds new cases quickly so they can be isolated to stop further spread.

Flow-Chart Cards – Gene Regulation

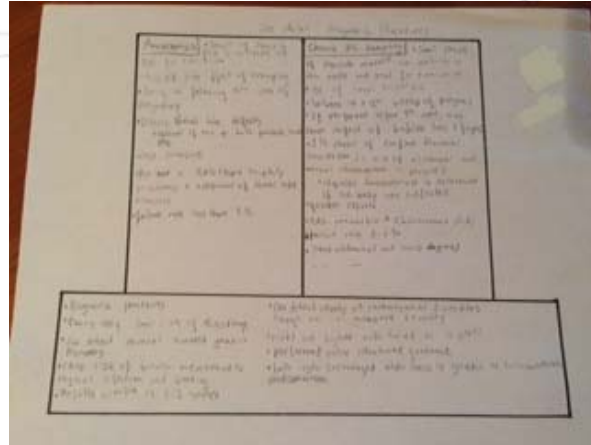
- Teacher Notes

- Student Resource



Compare and Contrast – Top Hat

- **Human Body Systems:**
Compare and contrast Aldosterone and ADH (anti-diuretic hormone)
- **Medical Interventions:**
Compare and contrast Amniocentesis and Chronic Villi Sampling



Align your course to Scales

- They are written for you!
- How to find them:
 - Go to desired course
 - Click files tab
 - Click Teacher Resources
 - Click Course Resources
 - Title: ALD (Name of Course)

	Basic	Proficient	Advanced
Descriptor	The student demonstrates a minimal or limited understanding of course concepts. Major gaps may be present in the student's knowledge and skills.	The student demonstrates a competent understanding of the course concepts. The student can apply knowledge and skills to familiar situations. There may be minor gaps in the student's understandings.	The student demonstrates a comprehensive and complex understanding of the course concepts. The student has the capability to transfer knowledge and skills to novel situations. Gaps in knowledge and skills are minimal.
Theme or Concept	A student who has reached the highest level of the basic category should be able to perform the following:	A student who has just reached the proficient level should be able to perform the following:	A student who has just reached the advanced level should be able to perform the following:
Epidemiology	Identify connections between patients in an outbreak scenario.	Determine some of the steps necessary to investigate an outbreak or identify some tests	Analyze connections between patients in an outbreak situation, determine

Are you using the LMS?

- It is not just a place to access curriculum
- It is a great place to keep any additional resources you want your students to have
- Helpful Links
- Cool things in the news
- Answer keys.... If you choose

Activity 1.1.5 ELISA - Resources

Assignment **Resources**

Activity

1.1.5.A ELISA.docx


1.1.5.A.SR SerialDilutions.docx

Antibody Slide shows.pdf

Links:


Meaningful information:

<https://www.youtube.com/watch?v=KQVzjGfIDCg>




Antibody Information:

https://www.youtube.com/watch?v=15BqVWw_AuI



ELISA LAB:

[https://www.youtube.com/watch?v=B49-NYUeUJhok&desktop_url=https://www.youtube.com/watch?v=K3FV30B49Hh&desktop_url="](https://www.youtube.com/watch?v=B49-NYUeUJhok&desktop_url=https://www.youtube.com/watch?v=K3FV30B49Hh&desktop_url=)



PLTW Biomedical Sciences + CTE Expectations

GRADING RUBRIC - Soft Skills

COLLABORATION	4 Exceeds expectations	Acts as a leader or exemplary team member Consistently provides thoughtful ideas to teams Consistently values and encourages all members of teams A strong team member Provides thoughtful ideas to teams Values and encourages all team members
	3 Meets expectations	Participates minimally and requires some prompting as a team member Sometimes provides thoughtful ideas to teams Sometimes values and encourages all team members
	2 Emerging expectations	Rarely participates in team activities Rarely provides thoughtful ideas to teams Rarely values and encourages team members
	1 Below expectations	
RESPECT	4 Exceeds expectations	Seeks and accepts the opinions and input of others Consistently demonstrates both respectful and helpful behavior Listens and accepts the opinions of others Demonstrates both respectful and helpful behavior Shows growth in accepting others Improvement noticed in demonstrating respectful and helpful behaviors Usually ignores the opinions and input of others Needs improvement in demonstrating respectful and helpful behavior
	3 Meets expectations	
	2 Emerging expectations	
	1 Below Expectations	
INITIATIVE	4 Exceeds Expectations	Initiates curiosity and interest in learning Independently engages in learning activities Consistently perseveres and seeks assistance as necessary Demonstrates resourcefulness and seeks assistance as necessary Demonstrates curiosity and interest in learning Engages in learning activities Demonstrates perseverance Demonstrates resourcefulness and seeks assistance as necessary
	3 Meets Expectations	
	2 Emerging Expectations	
	1 Below Expectations	
WORK HABITS	4 Exceeds Expectations	Always punctual and prepared Consistently displays a positive attitude Always on task • Always strives to reach full potential Spends extra time to ensure tasks are well done Punctual and prepared for class • Displays a positive attitude Stays on task • Strives to meet potential Completes tasks and meets deadlines
	3 Meets Expectations	
	2 Emerging Expectations	
	1 Below Expectations	

Soft Skills Assessment

Date	Collaboration	Respect	Initiative	Work Habits
	# Feedback with specific examples	# Feedback with specific examples	# Feedback with specific examples	# Feedback with specific examples

Communication Rubric + CTE Standards

- Front side includes: Information, Organization and Team

COMMUNICATION RUBRIC				
	Unsatisfactory	Partially Proficient	Proficient	Advanced
I n f o r m a t i o n	<ul style="list-style-type: none"> • Does not present information or findings clearly • Information is incorrect and does not relate to the assignment 	<ul style="list-style-type: none"> • Some information researched and presented was correct/useful but was incomplete or missing key parts • Included some information that was irrelevant, unneeded, or did not directly relate to the topic 	<ul style="list-style-type: none"> • Information researched and presented was relevant to the topic • Excluded irrelevant information 	<ul style="list-style-type: none"> • Information indicates you accurately researched a variety of information sources, recorded and interpreted significant facts, and evaluated any possible alternative points of view • The project includes motivating questions and advanced organizers. The project gives the audience a clear sense of the main idea.
O r g a n i z a t i o n	<ul style="list-style-type: none"> • Does not have an introduction and/or conclusion • Uses time poorly; the whole presentation, or a part of it, is too short or too long • Slides/display does not add to or may distract from the presentation • Slide/display layout has errors (text unreadable, overlapping, font) • Presentation lacks key features (transitions, animations, etc.) 	<ul style="list-style-type: none"> • Has an introduction and conclusion, but they are not clear or interesting • Generally times presentation well, but may spend too much or too little time on a topic, a/v aid, or idea • Slides/display are mostly appealing and help the presentation • Slide/display layout has minimal errors (text unreadable, overlapping, font) • Presentation has some key features, but they distract from overall presentation 	<ul style="list-style-type: none"> • Has a clear and interesting introduction and conclusion • Organizes time well; no part of the presentation is too short or too long • Slides/display appeal to a wide audience contribute to the overall presentation • Slide/display layout lacks errors and is a polished product • Presentation includes key features and they improve the presentation 	<ul style="list-style-type: none"> • Effectively presents the information in an original, unique, or imaginative way. Theme is appealing to a wide audience. • The graphics, sound and/or animation are included and assist in presenting an overall theme and enhance understanding of concept, ideas and relationships
T e a m	<ul style="list-style-type: none"> • Not all team members participate; only one or two speak • Transitions between speakers is disorganized and confused 	<ul style="list-style-type: none"> • All team members participate, but not equally • Transitions between speakers is clunky and doesn't flow 	<ul style="list-style-type: none"> • All team members participate for about the same length of time • Has transitions between speakers that flow, but might not have been practiced 	<ul style="list-style-type: none"> • Presentation order/responsibilities are well timed, practiced, and thought out • Has natural and practiced transitions between speakers

Communication Rubric + CTE Standards

- Back side includes: Eyes & Body, Voice and Questions

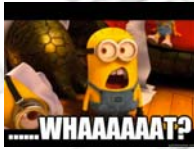
E y e s & B o d y	<ul style="list-style-type: none"> • Does not look at audience; reads notes or slides • Does not use gestures or movements • Lacks poise and confidence (fidgets, slouches, appears nervous) • Wears clothing inappropriate for the occasion 	<ul style="list-style-type: none"> • Makes infrequent eye contact; reads notes or slides most of the time • Uses a few gestures or movements but they do not look natural • Shows some poise and confidence, (only a little fidgeting or nervous movement) • Makes some attempt to wear clothing appropriate for the occasion 	<ul style="list-style-type: none"> • Keeps eye contact with audience most of the time; only glances at notes or slides • Uses natural gestures and movements • Looks poised and confident • Wears clothing appropriate for the occasion 	<ul style="list-style-type: none"> • Time spent practicing the presentation is evident • Keeps eye contact with the audience the entire time and does not use notes
V o i c e	<ul style="list-style-type: none"> • Mumbles • Speaks too softly to be understood • Frequently uses "filler" words ("uh, um, so, and, like, etc.") • Does not use a professional voice (speaks as if talking to friends) 	<ul style="list-style-type: none"> • Speaks clearly most of the time (speaks too quickly or slowly) • Speaks loudly enough for the audience to hear most of the time, but may speak in a monotone • Occasionally uses filler words • Attempts to use a professional voice (articulation, grammar, tone) 	<ul style="list-style-type: none"> • Speaks clearly; not too quickly or slowly • Speaks loudly enough for everyone to hear; changes tone and pace to maintain interest • Rarely uses filler words • Professional voice (articulation, grammar, tone) 	<ul style="list-style-type: none"> • Entire presentation is presented in a professional, informative, and authoritative manner • Entire presentation lacks errors in grammar and pronunciation and includes pauses to allow the audience to "digest" the info
Q u e s t i o n s	<ul style="list-style-type: none"> • Does not address audience questions (goes off topic or misunderstands without seeking clarification) • Answers are mostly incorrect or do not relate to the topic 	<ul style="list-style-type: none"> • Answers audience questions, but not always clearly or completely • Answers include some incorrect information, but are mostly accurate and relate to the topic 	<ul style="list-style-type: none"> • Answers audience questions clearly and completely • Answers are given using correct information and relate to the topic • Seeks clarification, admits "I don't know" or explains how the answer might be found when unable to answer a question 	<ul style="list-style-type: none"> • Provides additional information or uses questions to lead to an understanding of the bigger picture

Praise – Question - Polish

- **Praise:** What went well? Be specific as you identify aspects of the presentation that you believe were effective. What evidence led you to these conclusions?



- **Question:** Aspects of the presentation you are wondering about. What questions do you have?



- **Polish:** What suggestions do you have for how the group can change or improve their presentation?



Linking HOSA to the BIOMED classroom

- Use the skills event guidelines as lab practical grading rubrics
- PLTW/ HOSA curriculum crosswalk available

Biomedical Laboratory Science

Competitor #: _____ Judge's Signature: _____

Skill III:	Inoculate and streak agar plate (Time: 5 minutes)	Possible	Awarded
1.	Assembled materials and equipment.	1	0
2.	Used alcohol-based handrub and put on gloves and face protection	1	0
3.	Selected an agar plate to be inoculated and labeled the bottom with a marker.	1	0
4.	Selected an inoculated swab.	1	0
5.	Placed package of sterile disposable loops <u>within</u> reach.	1	0
6.	Removed pre-inoculated swab from package.	1	0
7.	Opened the lid of the agar plate just enough to insert the swab.	1	0
8.	Spread the inoculum over the surface of one quadrant of the agar plate.	1	0
9.	Replaced the lid on the agar plate.	1	0
10.	Disposed of swab in biohazard container.	1	0
11.	Picked up a sterile disposable loop and lifted the lid of the agar plate just enough to be able to insert the inoculating loop.	1	0
12.	a. Streaked the second quadrant of the plate by touching the loop into the first quadrant and streaking all the way across the second quadrant, and b. Made six to eight strokes.	2 2	0 0
13.	Disposed of loop in biohazard container.	1	0
14.	Picked up a sterile disposable loop and lifted the lid of the agar plate just enough to be able to insert the inoculating loop.	1	0

HOSA Fundraising Opportunity


DonorsChoose.org Find a classroom to support About us Help Ms. Levitt

\$1,290 GOAL **HOORAY!**
THIS PROJECT IS FULLY FUNDED

You can still help! Give Ms. Levitt a gift card to use on her next project.

HOSA National Leadership Conference 2015

My students need financial support to attend and compete at the HOSA National Leadership Conference. These students placed 1st and 2nd at the Colorado State Conference.

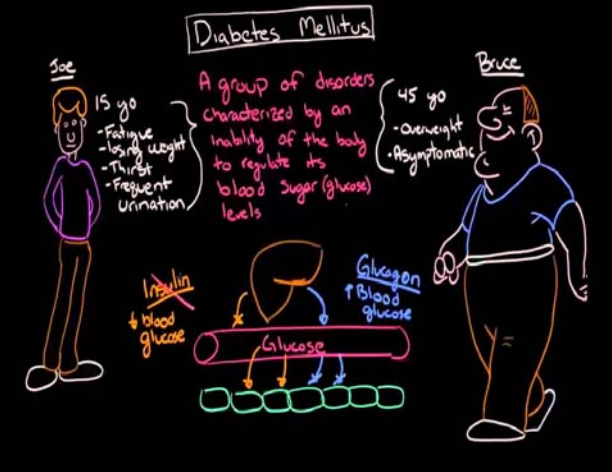


Ms. Levitt
Colorado
Grades 9-12
High Poverty

Principles of Biomedical Sciences – Curriculum Updates

- Activity 1.1.2 – Examining the Scene: Investigative Notes Resource Sheet was added
- Activity 2.2.1 – Food Testing & Autopsy Report: *Analysis of stomach contents* header was added to the autopsy report
- Added videos – Khan Academy Diabetes Series and EKG and angiogram videos

Diabetes Mellitus



Sue 15 yo
- Fatigue
- Losing weight
- Thirst
- Frequent urination

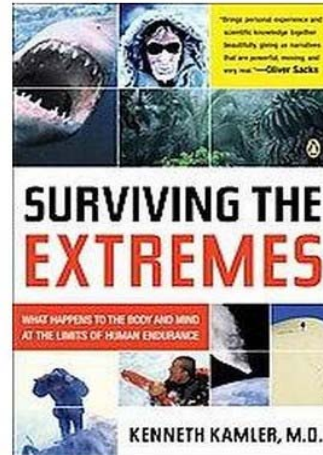
Bruce 45 yo
- Overweight
- Asymptomatic

A group of disorders characterized by an inability of the body to regulate its blood sugar (glucose) levels

Insulin ↓ blood glucose
Glucagon ↑ blood glucose
Glucose

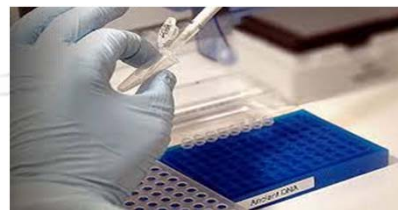
Human Body Systems – Curriculum Updates

- *Surviving the Extremes*
Discussion Questions are now located in the General Teacher Resources folder under Files
- Consider giving a high point quiz for each chapter of the book that is only one question...for example in the Jungle chapter "What did Antonio sleep with one night?"...A snake



Human Body Systems – Curriculum Updates

- Activity 1.2.4 – Height Estimation from Bone...use the new Microsoft 2013 Excel Resource sheet ONLY if your computers are updated!
- Activity 1.3.1 – DNA Detectives...Edvotek is the recommended kit to use, but be sure to aliquot **40 microliters** of each sample to correspond with the PLTW student directions, otherwise they will run out



Human Body Systems – Curriculum Updates

- Activity 5.2.3 – Bone Remodeling...Broken Bone X-ray image has been added to both student and teacher resources...the kit is NO longer available
- Problem 6.1.3 – Building a Case...a medical history resource sheet has been added, however it is very basic...so I recommend this one!

MEDICAL RECORD SUPPLEMENTAL MEDICAL DATA
For use on form 100, use with 1000, the appropriate approval in the Office of the Surgeon General

REPORT FOR: Physical Therapy Medical History History Pages: 1000-1000-0000

Question	Yes	No	Other
1. Have you ever had a fracture?	Yes	No	Other
2. Have you ever had a dislocation?	Yes	No	Other
3. Have you ever had a sprain?	Yes	No	Other
4. Have you ever had a laceration?	Yes	No	Other
5. Have you ever had a burn?	Yes	No	Other
6. Have you ever had a concussion?	Yes	No	Other
7. Have you ever had a seizure?	Yes	No	Other
8. Have you ever had a stroke?	Yes	No	Other
9. Have you ever had a heart attack?	Yes	No	Other
10. Have you ever had a kidney stone?	Yes	No	Other
11. Have you ever had a gallbladder problem?	Yes	No	Other
12. Have you ever had a urinary tract infection?	Yes	No	Other
13. Have you ever had a sexually transmitted disease?	Yes	No	Other
14. Have you ever had a blood transfusion?	Yes	No	Other
15. Have you ever had a surgery?	Yes	No	Other
16. Have you ever had a dental procedure?	Yes	No	Other
17. Have you ever had a vision correction procedure?	Yes	No	Other
18. Have you ever had a hearing aid?	Yes	No	Other
19. Have you ever had a prosthetic limb?	Yes	No	Other
20. Have you ever had a wheelchair?	Yes	No	Other

ALLERGIES

1. Do you have any allergies? (If yes, list them below)

2. Do you have any food allergies? (If yes, list them below)

3. Do you have any drug allergies? (If yes, list them below)

4. Do you have any latex allergies? (If yes, list them below)

5. Do you have any environmental allergies? (If yes, list them below)

6. Do you have any insect allergies? (If yes, list them below)

7. Do you have any other allergies? (If yes, list them below)

PATIENT SIGNATURES PREPARED BY: _____ DATE: _____

DEPARTMENT: _____

Medical Interventions – Curriculum Updates

- Unit 1: In Activity 1.4.2 the students need the Student Resource Sheet that has the restriction enzymes and viral DNA on it...
- However, the paper plasmid they need is located in the Teacher Resources and it needs to be printed out in color!

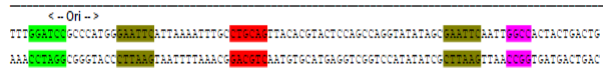
PLTW Biomedical Science

Activity 1.4.2 Teacher Resource Sheet

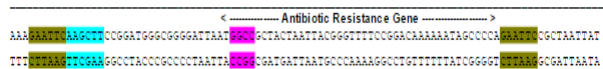
Print out the strips found below using a color printer. If a black and white printer is used, the restriction sites will still show up shaded. Instruct students to identify each restriction site and assign a color code for each enzyme.

Cut out strip A and strip B leaving a small amount of space at each end. Attach Strip B to the end of Strip A, making sure to line up the nucleotides. Once you have a long strand of DNA, attach the two ends to form one continuous ring or plasmid. Create a paper plasmid for each student in the class. Alternatively, provide the plasmid strips to the students and have them assemble the plasmid before they move to their viral DNA.

Plasmid Strip A

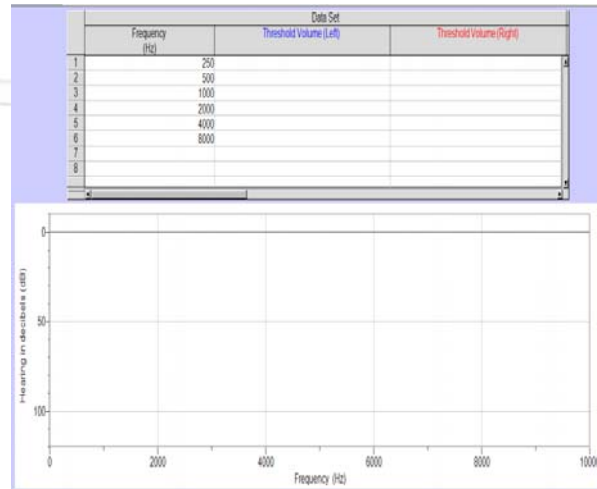


Plasmid Strip B



Medical Interventions – Curriculum Updates

- Activity 3.1.5 – Unlocking the Secrets in Our Genes...use the Microsoft 2013 Excel Resource Sheet **ONLY** if your computers are updated!
- Logger Pro Supplemental Files are now located in the LMS – Teacher Resources: Can You Hear Me Now? Design a Prosthetic Arm, Biofeedback Therapy... **ZIP Files**
- Broken web links have been updated...sometimes Google the name of the article and it will pull up the information



PLTW Resumes

- These are great resources for your students to use when they are writing their own resumes
- They are excellent for you to showcase all of the skills and topics that are taught each year
- *Located in the Files – Teacher Resources – Course Resources – Resume is at the very bottom*



PLTW Biomedical Science

Human Body Systems Course Resume

Course resumes showcase the technical skills students obtain in each PLTW course. Each resume outlines the computational skills, analytical skills, and knowledge acquired in the course. Course Resumes also detail student experience with tools, software, lab work, and engineering design. The detailed skills listed within course resumes illustrate the immediate, applicable contributions that students can make within a workplace.

Laboratory Skills

- Micropipetting
- DNA gel electrophoresis

Clinical Skills

- ECG analysis
- Spirometry
- Visual perception testing
- Urinalysis
- Ankle Brachial Index
- Blood typing

Equipment and Software Proficiencies

- Microsoft Office (Excel, Word, PowerPoint)
- Vernier probes and sensors
- Data Acquisition Software (Vernier Logger Pro)
- Microscope
- Goniometer

Scientific Experimentation Skills

- Design and conduct reliable scientific experiments
- Analyze and interpret laboratory data
- Construct graphs (by hand and using graphing software)
- Interpolate and extrapolate data from a graph
- Draw conclusions based on experimental data
- Thoroughly and clearly communicate results and conclusions both orally and in writing

Professional Skills

- Group collaboration
- Planning and organizing

Medical Interventions – Student Books

- Unit 1 – How a killer pathogen (most likely a virus) will spill over into humans from an animal
- Unit 4 – Scientists think the most common form of communication on Earth is *bioluminescence*

