

## Compacting form and project description

Student Name: \_\_\_\_\_

Student Signature: \_\_\_\_\_

Parent Name: \_\_\_\_\_

Parent Signature: \_\_\_\_\_

Teacher Signature: \_\_\_\_\_

Curriculum Area	Speed Up /Test- Out/Eliminate	Project Description
Biology (Cells)	<p>Pre-Test Sample Questions:</p> <ul style="list-style-type: none"><li>-What is a cell and what are the components of a cell?</li><li>-How do cell organelles compare to human organs?</li><li>-What are the differences between asexual and sexual reproduction?</li></ul> <p>Excludes you projects and practice activities</p>	Three advanced activities that will allow students to demonstrate their knowledge and understanding of cells.

### Resources:

Computer with internet access, Microsoft Word, Inspiration software, Paper/Colored Pencils, journal, Materials for 3D cell

### Steps in the Project:

1. Choose at least three activities from the project for a total of 30 points. One activity must be in the Teal section worth 5 points.
2. Meet with your teacher to discuss the activities you would like to complete and discuss ideas, expectations and the rubric. Your teacher will sign your paper and initial your selections.
3. If you have any questions during class please raise your hand and wait patiently. If you have any questions while at home please email me [teacheremail@bio.com](mailto:teacheremail@bio.com). Also, register your phone for reminders via remind.com, see me for more details.

### Criteria for quality work:

- Students must include at least three completed activities/assignments.
- A completed activity correctly addresses all of the indicators in each activity.
- A rubric will be used to grade the assignments. (see attached)

- Choose at least three activities that will add up to 30 points. The point total of your projects should be 30 points.
- There are six activities to choose from. The teal activities are worth 5 points and the Orange activities range from 10 to 15 points. Assignments can be turned in before or on the due date.
- Students are responsible for researching and learning the material in each indicator on their own however the teacher is available for support and to answer questions.

Due date: 5/29/15

## Cells

**Overview** –This lesson on cells will address the expectation 3.2 where the student will demonstrate an understanding that all organisms are composed of cells which can function independently or as part of multicellular organisms.

### Student responsibilities

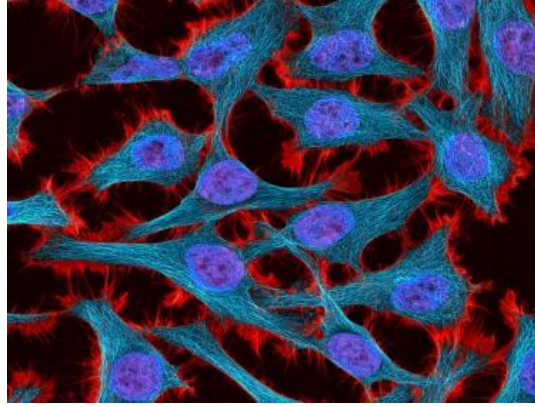
1. Within the three assignment students will address the following (see below) assessment limits as laid out by <http://mdk12.org/instruction/clg/biology/goal3.html>
2. Students must choose 3 assignments that will address all of the assessment limits (A-H) before being approved by Mr. Grey.
3. Students will cover all of the indicators listed in each activity in a coherent manner.

**Note:** Students can go beyond the assessment limits in the assignments.

### Assessment Limits:

- A. transportation of materials (role of cellular membranes; role of vascular tissues in plants and animals; role of circulatory systems)
- B. waste disposal (role of cellular membrane; role of excretory and circulatory systems)
- C. movement (cellular – flagella, cilia, pseudopodia; interaction between skeletal and muscular systems)
- D. feedback (maintaining cellular and organismal homeostasis - water balance, pH, temperature, role of endocrine system)
- E. asexual (binary fission, budding, vegetative, mitosis: role in growth and repair, chromosome number remains the same) and sexual reproduction (angiosperms, mammals)

- F. control of structures (cellular organelles and human systems) and related functions (role of nucleus, role of sensory organs and nervous system)
- G. capture and release of energy (chloroplasts, mitochondria)
- H. protein synthesis (ribosomes)



("HeLa Cells: A New Chapter in An Enduring Story", 2013)

### Cell Project:

1. Read the Cell project options and consider what activities you would like to complete.
2. Choose at least three activities. The point total of your project should be 30 points.
3. There are six activities to choose from. The Teal activities are worth 5 points and the Orange activities range from 10 to 15 points.
4. Your choice of all three (minimum) activities must include all of assessment limits A-H. You will not be approved unless your activities cover all of the assessment limits.
5. Meet with Mr. Grey to discuss the activities you would like to complete and we can discuss ideas and expectations.
6. Complete the Compacting Plan and turn it in with your signature and your Parent/Guardian's signature by 5/29/15.

<b>Knowledge</b>	<p>Students will memorize the definitions and functions of the cell vocabulary and record the terms in their journal. (ribosome, nucleus, cell membrane, cell wall, chloroplast, mitochondria, ATP, unicellular, multicellular, pseudopodia, cilia, flagella)</p> <p>Assessment Limits: A,B,C,F,G,H Not Included: D,E,</p>	<b>5 points</b>
<b>Comprehension</b>	<p>Students will be given a picture of a cell. They must identify and explain all of the parts in the picture of the cell including arrows and a description of how molecules move into and out of the cell.</p> <p>Assessment Limits: A,B,C,F,G,H Not Included: D,E,</p>	<b>5 points</b>
<b>Application</b>	<p>Students will construct a 3D model of a cell and include a description how the cell maintains homeostasis.</p> <p>Assessment Limits: A,B,D,F,G Not Included: C,E,H</p>	<b>10 points</b>
<b>Analyze</b>	<p>Using inspiration software, students will create a diagram that compares and contrasts cell parts to human systems.</p> <p>Assessment Limits: A,B,D,E,F Not include: G,H</p>	<b>10 points</b>
<b>Evaluate</b>	<p>Student will use a microscope to investigate and classify what type of cells they are observing. The teacher will give the student at least 5 different slides/pictures. The student will evaluate the slides, sketch their field of view, describe the type of cell and justify their answers.</p> <p>Assessment Limits: C,E,F,G,H Not include: A,B,D</p>	<b>10 points</b>
<b>Create</b>	<p>Choice activity: (circle one)</p> <p>A.) Students will hypothesize in a blog (blogger.com), how cells are able to reproduce, grow and repair themselves.</p>	<b>15 points</b>

	<p>Assessment Limits: A-H</p> <p>B.) Students will produce a cell story demonstrating their knowledge of all indicators (A-H)</p>	
Grade	Comments:	____/30

## Management Plan

### Project and Class Expectations:

- Choose the activities that you want to complete.
- Meet with your teacher and get them approved.
- Read and follow directions for your activity.
- Work diligently on your task or you will be reassigned to a task of my choice.
- At random times your teacher will check on your progress, if sufficient progress is not being made you will be reassigned to a task of my choice.
- Ask questions if you have them.
- When completing assignments on the computer, be sure to save your work often and in multiple place in case of a computer malfunction.
- Review the rubric regularly.



## Grading Rubric for Project

Remember the point totals for activities are 5 points or 5 points. The assignment points are different depending on the activity that you choose. Each activity is graded separately

Create Assignments have a multiplier of 3 times your final score on the rubric.

Application, analyze and Evaluate have a multiplier of 2 times your final score on the rubric

The Rubric below will be used to score your project.

**5 Excellent:** The student clearly addresses all of the assessment limits and demonstrates an understanding that all organisms are composed of cells which can function independently or as part of multicellular organisms. Specific information is given to support the conclusions that are included and/or described. The project is engaging and sentence structure is consistently correct. There is strong evidence of organization, research and knowledge for the topic.

**4 Very Good:** The student addresses most of the assessment limits and demonstrates an adequate understanding that all organisms are composed of cells which can function independently or as part of multicellular organisms. Adequate information is given to support the conclusions that are include and described. The project is engaging and sentence structure is consistently correct. There is adequate evidence of organization, research and knowledge for the topic.

**3 Good:** The student addresses some of the assessment limits and demonstrates an adequate understanding that all organisms are composed of cells which can function independently or as part of multicellular organisms, but supporting information is not as strong as a 4 or 5. Some information is given to support the conclusions that are include and described. The project is engaging and sentence structure is generally correct. There is some evidence of organization, research and knowledge for the topic.

**2 Limited:** The student fails to address most of the assessment limits and demonstrates a limited understanding that all organisms are composed of cells which can function independently or as part of multicellular organisms. No conclusions or descriptions are given to demonstrate the knowledge of assessment limits. The project sentence structure is understandable, but with some errors. Evidence of preparation, research and organization is lacking.

**1 Poor:** The student fails to address any of the assessment limits and does not demonstrate an understanding that all organisms are composed of cells which can function independently or as part of multicellular organisms. The project is difficult to follow. There is no indication of preparation, research or organization.

0- No submission

References:

[Chart Image] Retrieved April 22, 2015, from <http://www.agr.state.il.us/forms>

HeLa Cells: A New Chapter in An Enduring Story. (2013, August 7). Retrieved April 22, 2015, from <http://directorsblog.nih.gov/2013/08/07/hela-cells-a-new-chapter-in-an-enduring-story/>

[Rubric] (n.d.). Retrieved April 22, 2015, from [http://www.ucdenver.edu/faculty\\_staff/faculty/center-for-faculty-development/Documents/Tutorials/Rubrics/documents/ex\\_holistic\\_oral\\_report.pdf](http://www.ucdenver.edu/faculty_staff/faculty/center-for-faculty-development/Documents/Tutorials/Rubrics/documents/ex_holistic_oral_report.pdf)

Using the Core Learning Goals: Science. (n.d.). Retrieved April 22, 2015, from <http://mdk12.org/instruction/clg/biology/goal3.html>