**HSPVA BIOLOGY MID-TERM PROJECT!**

**You will be taking your BIOLOGY midterm on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, 2018. This will be a two hour long test and will cover all content from the beginning of school (nature of science) to the last unit (ENZYMES). There will be a multiple choice section, a diagram section, a short answer section, and a long response question.**

**Your mid-term project is due on Wednesday, December 12th, 2018 by 4:00 PM. This project will count for HALF of your mid-term exam grade. You may turn it in to me or email it to me at:** **ndilugli@houstonisd.org**

**Your COMBINED mid- term exam and project grade will count for 25% of your 1st semester grade. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**You will select ONE of the following to complete for your project. The grading will be as follows:**

**100 %-Project goes above and beyond in effort, quality, and amount of time put in.**

**95 %-Excellent job-effort and time were put in and the project looks great.**

**85 %-An average job on the project-an average amount of time and effort were put into the project.**

**75 %-Enough time and effort were put into the project that it is complete and acceptable.**

**50 %-The project is not complete (but is at least half complete) or very little time and effort were put into the project.**

**0 %-nothing was turned in, or less than half of the project was completed.**

**\*ALL PROJECTS NEED TO HAVE YOUR NAME, BIOLOGY PERIOD, and PROJECT LETTER ON THE UPPER RIGHT HAND CORNER OR ON THE BACK LOWER RIGHT HAND CORNER FOR LARGER ITEMS. ALL E-MAILED PROJECTS NEED TO HAVE YOUR NAME, BIOLOGY PERIOD, and PROJECT LETTER IN THE SUBJECT LINE. IF THESE REQUIREMENTS ARE NOT MET, YOU WILL BE BUMPED INTO THE LOWER GRADING CATEGORY. \***

**UNIT I: Nature of Science**

1. Read SIX articles about current discoveries in science (in the last year) that relate to any of the topics that we have covered so far this year. For each article write a summary that identifies and includes the following: Problem statement, hypothesis, independent variable, dependent variable, all constant variables, and a summary of the experimental design (procedure). Describe what their data was and what the conclusion of the experiment was. Turn in original articles and your summaries \*.
2. Choose an actual science experiment that you can do at home, and write a lab report on that experiment. Include: Title, problem statement, hypothesis, independent variable, dependent variable, all constant variables. Collect your data on a data table and graph your results. Write a conclusion that discusses the purpose of the experiment, whether your hypothesis was right or wrong, and what your conclusion is. Also discuss experimental errors and what related experiments you would like to do. Turn in procedure and full lab report \*.

**UNIT II: ECOLOGY**

1. **Write a children’s book over any environmental issue. In your book include biologically relevant information (food web, trophic levels, energy, etc…) and a clear presentation of causes of the problem and possible solutions.**

**UNIT III: The cell:**

1. Build a 3-D model of a cell (plant, animal, or bacterial). The model MUST include at least TEN labeled parts of the cell, with a legend that explains the function of each).
2. Build a matching game for parts of the cell and their functions using your knowledge of electricity and circuits so that when the correct answer is selected a light bulb lights up (see me for an example if interested)\*. Pictures AND terms need to be used.
3. Make a detailed and beautiful flip book for the stages of the cell cycle that must contain color

and at least 50 pages. It must also include a page that explains what occurs during each stage of the cell cycle.

**UNIT IV: Biochemistry:**

1. Make one display of 3-D models of the chemical structures of each type of biomolecule (carbohydrates, lipids, proteins, and nucleic acids). Have the model labeled with the functions of each type of biomolecule. Turn in the model with labels \*.

**THAT WORK FOR ANY UNIT:**

**For these options you may limit your project to terms or ideas from only one unit OR you can include terms or topics from EACH unit. The terms and/or concepts MUST be ones that we discussed in class. No credit will be given for terms or concepts that we did not discuss in class.**

1. **Make a Biology dictionary of at least 35 terms. The dictionary needs to be alphabetized, and each entry needs to include a definition of the term, an example of the term (in your own words) and an illustration, diagram, or photograph depicting that term. \***
2. **Make a photo journal of at least 35 terms or concepts. The photos MUST be taken by you, and for each photo you must include the term or concept, and your explanation of why this photo illustrates the term or the concept. \***
3. **Make a video (at least 8 minutes long) explaining any topic/s that we have covered so far this year. \***
4. **Make a review game over at least 35 terms or one unit that is fun to play! You must include instructions on how to play and the rules.\***
5. **Make a poster over any concept (with at least 35 terms identified) that is descriptive and informative. \***
6. **Write a children’s book over any of the topics that we have covered so far.**
7. **Choreograph/write and perform a dance/song over any topic that we have covered so far.**
8. **Write a series of poems or short stories that involve one of the topics covered this far.**