

# Blue Valley High School

## Honors Biology Requirements

*Dear Students and Parents of Honors Biology:*

Students are required to conduct a “Science Research Project.” This requirement is the most difficult and time consuming component of Honors Biology at BVH, but perhaps the most beneficial and rewarding experience. The following overview and due dates will help students and parents keep up with the many details and steps of this process. Some of the work will be done at home and some at school. Please plan accordingly to meet all required deadlines so full credit can be given for each SR assignment. Please encourage your student to advocate for themselves if they need help or have questions about any of the assignments prior to the deadlines.

**By district guidelines, honors requirements equal 20% of the overall class grade.**

**\*\*\*Late assignments will not be accepted for Honors Biology Components\*\*\***

**What does “honors” mean?**

Completing all of the regular course requirements at the 90% level or higher is not honors work. That is “A” work. All students can receive an “A” for accomplishing this. Certainly this is commendable but it is not honors work. **To qualify for the designation, “honors”, a student must distinguish himself/herself from the other students.** Honors students set themselves apart by their exceptional vigor, quality and quantity of work, and constant striving for excellence. Students in Honors don’t just, “get by”, they exhibit a genuine excitement about learning. It is hoped that honors students may view science as a vocation or an avocation, as opposed to merely fulfilling a graduation requirement.

**Please sign and date this document indicating that you understand your responsibilities for this portion of the Honors Biology course and return it to your teacher by the due date discussed in class. (This document can also be found on your teacher’s website, should you need additional copies).**

Student signature: \_\_\_\_\_ Date: \_\_\_\_\_

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

### Science Research (SR) Project Assignment Overview

SR Assignment	Due Date	Item(s) Due	Points Possible
#1 September	Tuesday – September 9	<b>Topic Ideas</b> 3 topic ideas for a year-long scientific research project ( <i>paper and experiment</i> ) each accompanied with a thorough hypothesis	<b>15</b>
# 2 September	Tuesday – September 30	<b>Reading and Annotating 3 Scientific Articles for Literature Review</b> Articles and directions for this assignment will be provided by your teacher for your specific project topic.	<b>50</b>
# 3 October	Tuesday – October 21st	<b>Draft of Materials List</b> Directions and grading rubric will be provided by your teacher	<b>5</b>
		<b>Draft of Procedure</b> Directions and grading rubric will be provided by your teacher	<b>5</b>
		<b>Draft of Raw and Statistical Data Tables and Figures</b> Directions and grading rubric will be provided by your teacher	<b>5</b>
# 4 November	<b>DRAFT:</b> Tuesday November 18	<b>Draft of Literature Review &amp; References</b> Directions and grading rubric will be provided by your teacher	<b>5</b>
#5 November	Friday November 21	<b>Peer Edit Review Due</b> Completed peer review following the peer edit guide provided by your teacher	<b>15</b>
# 5 November	<b>FINAL:</b> Tuesday November 25	<b>Final Literature Review &amp; References</b> Directions and grading rubric will be provided by your teacher	<b>100</b>

Name \_\_\_\_\_ Class Period \_\_\_\_\_

Topic \_\_\_\_\_

## Research Proposal

### Appropriate Format (3 pts)

- \_\_\_\_\_ Double-spaced
- \_\_\_\_\_ 12 pt. font
- \_\_\_\_\_ Sections are distinct and titles are bolded

### Grammar (2 pts)

- \_\_\_\_\_ Correct spelling
- \_\_\_\_\_ Proper grammar usage

### Problem/Research Question (5 pts)

- \_\_\_\_\_ Clearly stated in the form of a question
- \_\_\_\_\_ Independent and dependent variable are identified
- \_\_\_\_\_ Explains the personal, societal, and scientific implications of the research

### Background/Review of Literature (40 pts)

- \_\_\_\_\_ Detailed description and background information about the topic
- \_\_\_\_\_ Cites previous research on topic
- \_\_\_\_\_ Describes all variables related to the research question
- \_\_\_\_\_ Pictures are included to enhance background information
- \_\_\_\_\_ Logically organized into paragraphs
- \_\_\_\_\_ Transitions make the flow of ideas easy to follow
- \_\_\_\_\_ Sources of information and statistics are cited WITHIN the text

### Hypothesis (10 pts)

- \_\_\_\_\_ Includes a prediction of results and is therefore testable
- \_\_\_\_\_ Written as an "if...then..." statement
- \_\_\_\_\_ This section should explain briefly how the information from the background forms the basis for this prediction.

### Methods (15 pts)

- \_\_\_\_\_ Materials list is included, along with the quantities used in the experiment
- \_\_\_\_\_ Experimental procedure is outlined in enough detail that another person, reading this paper, could conduct the same research on their own
- \_\_\_\_\_ Experimental procedure should be organized in a numbered, step-by-step format
- \_\_\_\_\_ Clearly explains what will be observed/measured/recorded as data

### Data Table (10 pts)

- \_\_\_\_\_ Has a title and includes the appropriate labels (metric units, if necessary)
- \_\_\_\_\_ Corresponds with the experimental procedure and how the data is collected

### Bibliography (15 pts)

- \_\_\_\_\_ Contains 7 sources of information (*A minimum of 3 sources must be published*)
- \_\_\_\_\_ Sources are listed in *MLA format*
- \_\_\_\_\_ Sources are in alphabetical order

Comments:

Point Total: \_\_\_\_\_ / 100

# HOW DO I CHOOSE MY TOPIC?



**CHOICE OF TOPIC DUE DATE: Tuesday, September 9<sup>th</sup>, 2014**

1. Pick something that you are interested in! You will be working with this ALL year!
2. Curiosity & Need are the driving forces behind science research! What have you questioned about the world? About anything???
3. Topic must be SCIENCE related – can be related to ANY science discipline... physics, chemistry, biology, botany, zoology...
4. Topic must be **testable!** You will be setting up an experiment to test your hypothesis.
  - Ex. Cancer would not be testable!
  - Topic MUST be stated as: “The Effects of \_\_\_\_\_ on \_\_\_\_\_”
5. If you already know the end result, it is NOT a good choice!
  - Ex. Growing flowers with fresh water vs. salt water...
6. Keep COST in mind. Designing an experiment will require materials, but should NOT be overwhelmingly expensive! You must have parent permission
  - PARENTS- please keep in mind the costs associated with the topic your students choose!
7. If there are not enough resources on your topic, it is NOT a good choice! YOU will become the EXPERT! Assume that your reader knows nothing! You will have to research ALL aspects of your topic, so make sure there is a lot of information available.
8. Science is all about testing ideas repeatedly to gather MORE data! You are more than welcome to get ideas from the Internet but **you must run your OWN experiments, determine your OWN results, and write your OWN paper.** The expected format is very specific and plagiarism off the Internet is easily identified. Keep in mind that NOT all Internet sites have valid information!!! **Stick to professional or published sources for accurate information!**
9. The librarians will be reviewing **APA** format with us in **September/October**. I will not be re-teaching this paper writing style. You are expected to take notes and follow all guidelines throughout the research.
10. This is the MOST challenging part of the year long project! You will have to work HARD to come up with a topic! It will NOT fall in your lap! Work productively! Use your time wisely! You will not have an in-class day to search for your topic!

