**BIOL 001 Genetic Disorders Grading Rubric**

Grade thoughtfully and do NOT give students point values outside the bins provided. Together, the pre-lab questions, in-lab research (one per group), presentation, and peer evaluation sheet are worth 20 points. **NOTE** – Partners do NOT need to receive the same scores for the in-lab research and presentation if one partner did significantly more work, spoke more clearly, etc. Their pre-lab question scores, of course, are completely independent of one another. Since scores are individual, write them on the PRE-LAB questions and return them to the students. Write comments to explain your grading. Post scores on BlackBoard as always.

|  |  |
| --- | --- |
| **PRE-LAB QUESTIONS (see key on last page)** | |
| Answered all the questions. Answers are complete, generally correct, and show evidence of effort and thought. May include one minor inaccuracy. | 5 |
| Answered all of the questions. Answers show evidence of effort, but include a few inaccuracies. | 4 |
| Completed all questions, but answers are minimal and/or incorrect enough to indicate a lack of effort and/or understanding. | 3 |
| Did not complete the questions, or answers indicate a complete lack of understanding and/or effort. | 0 |

|  |  |
| --- | --- |
| **IN-LAB RESEARCH\*** | |
| All sections are complete. Answers are thorough and show evidence of effort and thought. | 5 |
| All sections are complete. Answers are minimal, but show some evidence of effort and thought. | 4 |
| Made an effort to complete all parts, but answers are minimal enough to indicate a lack of effort and/or understanding. | 2 |
| Did not complete. | 0 |

\*If a group spent a significant period of time working through the questions and didn’t get a chance to finish because they didn’t have time, certainly do NOT penalize them.

|  |  |
| --- | --- |
| **PRESENTATION – CONTENT\*\*** | |
| Included all required information. Information was organized in order to tell a cohesive story. | 6 |
| Included all required information. An effort was made to organize the information, but details were delivered in a “bullet point” manner. *‒OR‒* Told a cohesive story, but missing a couple required components. | 5 |
| Included all required information, but information was presented in a disorganized fashion, which made the presentation challenging to follow. *‒OR‒* Told a cohesive story, but missing several required components. | 4 |
| Missing multiple required components. Other information presented in a way that was at least understandable. | 3 |
| Missing enough required components and/or unclear enough to indicate a lack of effort. | 0 |

\*\*Students may not have the background knowledge needed to make a good connection between the protein function and disorder symptoms. As long as they make an attempt that sounds somewhat reasonable, give them credit for trying!

|  |  |
| --- | --- |
| **PRESENTATION – DELIVERY** | |
| Spoke clearly and delivered information in a comprehensible manner. | 2 |
| Spoke, but information was not easily understood (e.g. spoke too rapidly or too softly to be heard). | 1 |
| Did not speak. | 0 |

|  |  |
| --- | --- |
| **PRESENTATION PEER REVIEW SHEET** | |
| Comments indicate student paid attention to the presentations and show evidence of thought. Asked at least one relevant question. | 2 |
| Comments are complete and show some evidence of attention and thought. Did not ask a question or asked a question that was completely irrelevant or indicated they weren’t paying attention (e.g. asked the same question that someone else just asked; asked for a piece of information that was clearly provided in the presentation.) | 1 |
| Comments are not complete and/or indicate a complete lack of attention. May or may not have asked a question. | 0 |

Pre-lab Questions Key

Below are example answers. Obviously, use your judgement and accept other reasonable answers too.

1. Can a person be born with a genetic disorder if neither of their parents has the disorder? If not, why not? If so, how?

* Yes, if both parents are carriers (have the disorder allele) and the disorder allele is recessive (need two copies of the disorder allele to get the disorder.
* Yes, a mutation could occur in one of the gametes (egg or sperm) that fused to form the child.

1. You are working at a company that develops genetic tests. Would it be reasonable to develop a carrier test for a monogenetic disorder that was classified as a dominant disorder? Explain your answer.

* No, because if a person has one disorder allele for the gene, they have the disorder.
* No, because a person cannot be a carrier for a dominant genetic disorder.
* Yes, if the disorder develops later in life. [This isn’t the best answer since “carrier” specifically relates to recessive disorders, but it does indicate that the student is thinking!]

1. Give ONE reason why a person would consider being tested for a particular genetic disorder.

* the disorder runs in their family; other people in their family have the disorder
* they are thinking about having kids; they want to know if they could pass a disorder on to their kids
* they have a disorder and want to know whether it is caused by a genetic mutation
* they want to know their risk for getting the disorder

1. Based on what you know about genes and gene expression, give ONE reason why two people with the same genetic disorder might respond differently to a particular drug (i.e. the drug might cause harmful side effects in one person, but not in the other person).

* the two people have many other genes that could be different
* the environment can also influence how well a drug works

1. Find a NEWS story that is related to genetic disorders. Appropriate sources include TV news stations (e.g. ABC, CBS, NBC, CNN), newspapers (e.g. New York Times, Los Angeles Times, Huffington Post, the Washington Post), and magazines (e.g. TIME, Atlantic Monthly, Newsweek, Forbes). Provide a **LINK** to your news article. Below the link, provide the **TITLE**, publication **DATE**, and a brief (~3 sentence) **SUMMARY** of the article. **IMPORTANT**: Your summary must be in your OWN words. **Do NOT plagiarize** or you will lose credit for this assignment.

Check to see that there’s a link, title, date, and summary, and that the summary is coherent. If you think that the summary sounds a bit “too good,” copy one of the sentences and search for it on the web to see if that exact wording pops up.