Introduction to GMOs & MicroSynBio C. Kohn, Waterford WI

Group Last Names:

Hour Date: Why late? Score: + ✓ - If your project was late, describe why

**Introduction**: In this project, you will work in teams of 3-4 and use credible print and/or internet sources to acquire information about the topics below. You should develop your findings into a presentation (such as PowerPoint). You will provide an oral presentation on these topics when your work time has completed. Your work and presentation should be in your own words and should include a bibliography in APA format. Make sure you use credible sites.

Be sure that your entire group is prepared to present and speak professionally and accurately about each topic when you present. You may use printed or written notes to make your presentation.

**Topics:** The topics on which you will need to prepare a presentation include the following:

1. Definition of Genetically Modified Organisms.
2. Examples and descriptions of GMOs (and what makes them a GMO).
3. Methods used to create genetically modified organisms, including restriction enzymes & sticky ends, *Agrobacterium*, DNA microinjection, etc.
4. Arguments for GMOs.
5. Arguments against GMOs.
6. Use of GMOs in bioenergy and how GMOs could improve the production of biofuel.
7. Definition of Microbial Synthetic Biology (MicroSynBio; *a.k.a. synthetic biology, wet life, artificial life*).
8. Examples and descriptions of MicroSynBio.
9. Methods used for creating synthetic organisms.
10. Arguments for MicroSynBio.
11. Arguments against MicroSynBio.
12. Use of MicroSynBio in bioenergy and how GMOs could improve the production of biofuel.

If you have 4 people in a group, each person should be responsible for 3 topics. If there are six groups in a class, each group will present on two topics. Your instructor will shake dice or draw groups from a hat to determine which groups present on which topics. For example, if the instructor shakes or draws a 4 for #1, group 4 would be responsible for that topic.

**Remember** – your grade is partially- or completely-dependent on your oral presentation, so if you run out of time before you research all your topics, it will probably be ok. However, no two groups can present on the same topic, so make sure that you cover as many of these areas as possible in case other groups present before you. It is also in your best interests to volunteer to present multiple times because your instructor will use your best score.

Please provide your instructor with this sheet when you present so that they can use it to record your grade.

**Grading:** Your grade will be determined using the following considerations:

|  |  |  |  |
| --- | --- | --- | --- |
| **Item** | *Plus (100%)* | *Check (70-90%)* | *Redo (0%)* |
| **Accuracy** | No errors were detected in this presentation | This presentation contained a few errors, but overall was very accurate. | This presentation contained considerable errors.  |
| **Thoroughness** | No important information was omitted.  | A few more details would have enhance this work.  | Major topics were omitted that should have been included.  |
| **Professionalism** | This presentation could be effectively delivered to a group outside of the school. | This is acceptable work for high school students but room exists for improvement.  | The professionalism of this group needs significant improvement.  |
| **Group Involvement** | Every member was involved with the development of the presentation as well as its delivery.  | At least one more group member could have been more involved than they were.  | Multiple group members clearly could have been more involved.  |
| **Effort**  | Effort exceeds what would be expected of a high school student.  | Effort is acceptable for a high school student but room exists for improvement.  | Level of effort could have been much greater than what was presented.  |

Comments: