Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_\_\_\_\_

**Genetic Disorder Research Project**

**Introduction:** In order to gain a deeper understanding of genetics and how disorders occur or are inherited, you are going to research a genetic disorder and how it occurs. Then, you will create a project to demonstrate your understanding and present it to the class. The project will include two or more products of your choice that address certain research questions provided with this project information. Your project will also include a resource list. Keep reading for more information on the parts of the project and fill out this project-planning sheet with your group.

**7th Grade Science Essential Standard:**

7.L.2 Understand the relationship of the mechanisms of cellular reproduction, patterns of inheritance and external factors to potential variation among offspring.

* 7.L.2.1 Explain why offspring that result from sexual reproduction (fertilization and meiosis) have greater variation than offspring that result from asexual reproduction (budding and mitosis).
* 7.L.2.2 Infer patterns of heredity using information from Punnett squares and pedigree analysis.
* 7.L.2.3 Explain the impact of the environment and lifestyle choices on biological inheritance (to include common genetic diseases) and survival.

**Project Menu –** Circle a few of your ideas, then discuss and choose with your group. Each topic has a point value. Choose any combination that adds up to **5** or more!

|  |  |  |  |
| --- | --- | --- | --- |
| **4 Points** | **3 Points** | **2 Points** | **1 Point** |
| Nonfiction Book (10 pgs) | Google Slides (Min 15) | Play or Skit | Song/rap |
| Children’s Book (10pgs) | Prezi (Min 15) | Social Media Profile (15 posts) | Collage |
| Graphic Novel (5 pgs) | Board or Card Game | Worksheet (2 pgs) | Kahoot |
|  | Model | Study Guide (2 pgs) | Quizlet |
|  | Poster / Trifold | Text Conversation (30 bubbles) | Poem |
|  |  |  |  |

**Describe the specifics of your project:**

Who? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Where? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Why? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

When? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ How? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Resource List –** Keep track of all resources used for creating your project. Make a Resources page to turn in with your project. Use a minimum of 3 reputable sources. See Mrs. Barlow’s website for recommended resources. Avoid random blogs, videos, and forums.

**Other Project Guidelines**

1. Absolutely no real pictures with peoples’ faces. Drawings and diagrams are ok. The purpose of this is to remember that sometimes pictures of people are on the Internet without their permission and we want to respect the privacy and hardships of people who actually have these disorders.
2. No copying/pasting information. This is called plagiarism. You must put your research into your own words and keep track of where you got your information.
3. You are supposed to become an expert on your topic. You must do more than just 20 minutes of research to become an expert. All group members should know, understand, and be able to explain the symptoms, causes, genetics, and treatments of the disorder. Take time to inform each other.
4. There must be different information on the different parts of the project. For example: Your poster should not have the same information as what is on your slides.
5. If you are doing a slide show: Minimum 15 slides. One can be a title slide.
6. No doubling up on points. If you are making a poster and it is of a social media profile, then you don’t get points for both the poster and the profile.
7. All group members must participate and complete their assigned tasks.
8. Projects should be given a final edit for correct spelling, punctuation, and grammar.

**Group Norms –** Rules you will follow while working together.

1. Do your part.
2. The project is not done until everyone in the group is done. Help and encourage each other.
3. Admit your faults and be humble about asking your group members for help. Other people are counting on this grade and many won’t settle for anything less than an A.
4. Do not hog all the work and do the project for your group. This is a group effort and you are graded on your group work skills. Be a leader and motivate your people!
5. The group members will help each other to stay on task.
6. Group members must remain within the group and not be involved with other groups without teacher permission.
7. The group will keep the noise level to a 0, 1, or 2 on a scale from 0 to 3.
8. One laptop per group unless there are more laptops available.
9. A group has the ability to recommend firing a group member, who will then do their own project, after taking extra steps to first help the group member. The teacher will make the final decision.

**Grading** – This project will count for a test grade. Your presentation is part of your grade and so is your group participation.

**Project Work Days:** **4/1, 4/2, 4/3, 4/4, 4/5**

**Practice and Polish your Presentations:** **4/8**

**GRADED PRESENTATIONS: 4/9 and 4/10**

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_\_\_\_\_\_\_ # \_\_\_\_\_\_\_\_\_\_

**Genetic Disorder Research Project**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **0** | **1** | **2** | **3** |
| **Content of Research Topic (40%)** | Content is not in your own words or is not in context. Focuses on irrelevant descriptions or facts. Includes inappropriate or incorrect content. Lacks details and examples. | Some content is not in your own words or is not in context. There is insufficient, irrelevant, or incorrect information. May have some details and examples, but is still lacking information. | Uses some descriptions, facts, details, and examples that support ideas, but there may not be enough, or some are irrelevant. | Uses relevant, well-chosen descriptions, explanations, details, and examples to support claims, findings, arguments, and answers to driving question.  |
| **Actual Physical Project (30%)** | Poorly designed, messy, distracting, very difficult to understand, parts don’t fit together at all, and many grammar or spelling errors. | Product needs improvement in design layout, neatness, or organization with little cohesiveness and difficult to understand. More than two grammar or spelling errors.  | Planned, visually appealing product that is mostly cohesive, fairly easy to understand with two or fewer grammar or spelling errors. | Well planned, cohesive, visually appealing, easy-to-understand product with no grammar or spelling errors. |
| **Ten-Minute Presentation (20%)** | No presentation given. | Presentation is too short. Not all members participate or one member seems to do most of the presenting. It seems unrehearsed and jumps around a lot. Presenters are distracting and rarely make eye contact. Speaking is too fast/slow/soft.  | Presentation may be too long or short or jumps around a little. All members participate. Body language is fidgety or distracting. Speaking is too fast/slow/soft. Infrequent eye contact. | Presentation is within time limit, well-planned, and organized. All members: participate, show poise and confidence, speak clearly, make eye contact, and use body language that is not distracting. |
| **Reflection (5%)** | Not present in project (on rubric). | Minimal or incomplete responses. | Complete explanations. | Thorough explanations with specific examples. |
| **Collaboration (5%)** | Did not work well with others, refused tasks, and/or had negative things to say. Unhelpful. Their part of the project had to be done by other group members. Out of group, distracting others, off task most of the time. | Worked with others because they had to. Had trouble completing most tasks. Unwilling to do what needed to be done or became an impediment to the group. Did not communicate well with the group and sometimes in a negative way. Off task a lot. Talking to other groups. | Worked mostly well with others and completed tasks. Not able to really help others. Might have been unwilling to do a task. Had a time or two where they were not communicating in a positive way. Stayed on task most of the time. | Worked very well with others, completed all of their tasks, helped others when needed, was flexible, focused, maintained positive communication, stayed on task, etc. ALL THE TIME |
| **Collaboration, Group member****Name:** |  |  |  |  |
| **Collaboration, Group member****Name:** |  |  |  |  |
| **Collaboration, Group member****Name:** |  |  |  |  |
| **Collaboration, Group member****Name:** |  |  |  |  |

**Reflection – Be Specific!**

1. What went well? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What didn’t go so well?

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1. What changes would you make for the next time?

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1. Provide an example where your group used critical thinking

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1. Provide an example where your group used creativity

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1. Provide an example where your group used communication

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