**Meiosis Process Project**

DIRECTIONS:

* Choose one of the projects below
* You must describe interphase and all stages of meiosis
* You must include at least one major difference between meiosis and mitosis
* You may include what crossing over is and where it takes place
* You may discuss how meiosis leads to genetic variability

**Project 1: Meiosis cartoon**

* Make a cartoon resembling the stages of meiosis
* Clearly explain what is occurring in each stage
* You may use different characters and scenarios to describe what is happening, but the analogy must be clear
* Your drawings/handwriting must be easy to read/clear
* Since it is a cartoon, humor/puns are encouraged
* This option can only be completed as an **individual project**

**Project 2: Meiosis skit**

* Act out the process of meiosis. All of the mitotic stages plus interphase and cytokinesis must be shown
* One person must be a reporter/narrator to explain what we are watching. If you have the skills to add subtitles or voices not on screen, that is fine
* You will need a way to represent the chromosomes, replicated chromosomes, the centromere, the spindle fibers, the centrioles, the cell membrane, nuclear membrane, and daughter cells
* This option must be either videotaped or performed live in front of the class
* This option can be completed individually or with a group of **up to 4 people** (all actors must be seen/heard)

**Project 3: Meiosis flip book**

* Create a flip book showing the stages of meiosis
* Use color
* This option can only be completed as an **individual project**

**Project 4: Movie**

* Create a short movie using a program such as iMovie or Photostory
* You **cannot** use copyright material/media for this project or YouTube videos
* You must include handmade images/materials for the movie
* You may have **up to three people** involved in this project

**Project 5: Rap/Song**

* Create a rap or song that meets the criteria seen in the rubric
* You may not include any inappropriate words, gestures, or examples
* The song should not run over 5 minutes in length
* This option **can be done with one partner** but both must participate and written lyrics must be turned in

**Project 6: Poem/short story**

* A short story or poem can be created and turned in after meeting the criteria seen on the rubric
* The material must be completely yours and have no copyrighted material in it
* This project must be done as an **individual project**

Examples: <http://www.youtube.com/watch?v=BZtfSupnMr4> or <http://www.youtube.com/watch?v=P152Gxi3-kI>

**Meiosis Process Project Rubric**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Poor Quality**  0 Points | **Fair Quality** 7 Points | **Good Quality**  9 Points | **Score** |
| Interphase I | Not present | Present without description | Present with description |  |
| Prophase I | Not present | Present without description | Present with description |  |
| Metaphase I | Not present | Present without description | Present with description |  |
| Anaphase I | Not present | Present without description | Present with description |  |
| Telophase I /Cytokinesis | Not present | Present without description | Present with description |  |
| Prophase II | Not present | Present without description | Present with description |  |
| Metaphase II | Not present | Present without description | Present with description |  |
| Anaphase II | Not present | Present without description | Present with description |  |
| Telophase II / Cytokinesis | Not present | Present without description | Present with description |  |
| Comparison to Mitosis | No comparison to mitosis given | Incorrectly compared to mitosis | Gave one comparison to mitosis correctly |  |
|  |  |  |  |  |
|  | **Poor Quality**  0 Points | **Fair Quality** 3 Points | **Good Quality**  5 Points |  |
| Order of Stages | Stages out of order | Missing some stages / present stages are in order | All stages of meiosis are present and in order |  |
| Project Construction | Project messy or has large blank areas | Minimal effort and/or difficult to identify or understand | Neatly constructed/performed, moderately easy to understand and identify |  |
|  |  |  |  |  |
| **Optional** Crossing Over Bonus (3 pts) | Crossing over is described or depicted in project | | |  |
| **Optional** Genetic Variability Bonus (3 pts) | Identified/Describe how meiosis can cause genetic variability | | |  |
|  |  | | |  |

**Signup sheet for Meiosis Process Project**

Period:\_\_\_\_\_\_

**Cartoon**= 1 person

**Poem/Short story**= 1 person

**Flipbook**= 1 person

**Rap/Song**= up to 2 people

**Movie**= up to 3 people

**Skit**= up to 4 people

|  |  |
| --- | --- |
| **Name of participating individuals** | **Type of project** |
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