

## **Cancer Research Project: Final Product/Presentation Requirements**

Umbrella Question: What does the Muncie community need to know about cancer?

These past weeks have involved the investigation into the enigma that is cancer. You have researched a cancer type, and now you will combine your research with the class information into a final product. Your final product can be a poster, a slides presentation, an information pamphlet, or something else you decide upon, but you must have it cleared with the teacher. You must include the following:

Information from class instruction:

1. Definition of cancer and DNA.
2. The cell life cycle with all of its sections (see below) for regular cells and for cancer cells. Explain the difference between regular cell life cycles and cancer cell life cycles.
  - a. Sections include: Interphase (G1, S, G2), Cell Division (Prophase, Metaphase, Anaphase, Telophase, and Cytokinesis)
3. Define DNA replication, and explain why DNA replication is important for the organism and for cancerous cells.
4. Define the three mutations (addition, deletion, substitution) and explain how these mutations can potentially cause cancer.
5. Define protein synthesis and explain why it is important to all life. (Central Dogma of Biology: DNA → RNA → Protein)

Information from individual/group research on specific cancer type:

1. Signs and symptoms
2. Is the cancer caused from inherited (genetic) conditions, or from environmental conditions? How could a person test if they have the genetic condition? How could a person reduce environmental conditions?
3. Cell types: typically ends in "cytes" e.g.: melanocytes, leukocytes
4. Tissues and/or organs affected. Are some tissues or organs affected more than others?
5. Where can the cancer spread and how?
6. Stages of the cancer: defined and explained
7. Treatment options, and side effects of the treatments
8. Current research being conducted: for treatment options, detection assessments, or cures
9. Information about specific foundations supporting treatments and research (e.g.: The Leukemia and Lymphoma Society)
10. Personal connection to the cancer type, or sharing story of famous person diagnosed with related cancer. (e.g.: Alan Rickman – actor who played Severus Snape – died of pancreatic cancer)

Finally: Include a detailed list of resources – at least three different sources. Since I did not stress this enough in the beginning, I will not require proper citations for full credit. **If you cite using APA formatting for your sources, you can earn 20 points extra credit.**

**\*\*See back for rubric\*\***

### **Cancer Research Project: Final Product/Presentation Rubric**

Class items:

|            | Not Present | Partially Present | Mostly Present | Completely Present |
|------------|-------------|-------------------|----------------|--------------------|
| Item No. 1 | 0           | 1-2               | 3-4            | 5                  |
| Item No. 2 | 0           | 1-12              | 13-24          | 25                 |
| Item No. 3 | 0           | 1-2               | 3-4            | 5                  |
| Item No. 4 | 0           | 1-5               | 6-9            | 10                 |
| Item No. 5 | 0           | 1-2               | 3-4            | 5                  |

Research items:

|                | Not Present | Partially Present | Mostly Present | Completely Present |
|----------------|-------------|-------------------|----------------|--------------------|
| Item No. 1     | 0           | 1-5               | 6-9            | 10                 |
| Item No. 2     | 0           | 1-5               | 6-9            | 10                 |
| Item No. 3     | 0           | 1-2               | 3-4            | 5                  |
| Item No. 4     | 0           | 1-2               | 3-4            | 5                  |
| Item No. 5     | 0           | 1-5               | 6-9            | 10                 |
| Item No. 6     | 0           | 1-5               | 6-9            | 10                 |
| Item No. 7     | 0           | 1-5               | 6-9            | 10                 |
| Item No. 8     | 0           | 1-2               | 3-4            | 5                  |
| Item No. 9     | 0           | 1-2               | 3-4            | 5                  |
| Item No. 10    | 0           | 1-2               | 3-4            | 5                  |
| Citing Sources | 0           | 1-7               | 8-14           | 15                 |

Extra Credit Option: citing sources in APA formatting = 20 points extra credit

Total Points: 140