PULSE EXPERIENTIAL TEAM ASSIGNMENT

1. Title of your PULSE experiential assignment. *Provide a creative and informative title.*
Inside Glioblastoma: How the Most Aggressive Brain Tumor Develops Spreads and Gets Treated
2. Please summarize your PULSE experiential assignment (max 300 words). *Provide a non-technical (lay) summary of your PULSE assignment. Prompts to think about: What is the topic? What is the format? Why did you choose this topic and format? The summary for lay audience is a brief and accessible summary of the assignment that is used to explain complex ideas, technical writing and scientific terms to people who do not have prior knowledge of the subject (e.g., high school science level). This summary should include the importance, impact, and content of your assignment to a broader audience.* *[Team 23 is an example of an informative lay summary.]*
The assignment was based on the pathology and treatment of glioblastoma. We explained the disease from how it begins, how it grows and spreads, how it is treated and the outcome of the cancer. Glioblastoma is the most aggressive and deadly type of brain tumor. It rapidly develops and then it spreads into the surrounding brain tissue making it extremely difficult to treat. Our specific assignment presents glioblastoma through an educational website. The website places emphasis on why Glioblastoma has such a poor prognosis despite modern medical advances.
3. Provide up to 6 keywords relevant to your PULSE experiential assignment. *3-6 keywords are ideal.*
Glioblastoma / Tumor suppressors/ mutations / Cancer / Pathogenesis / Imaging
4. Identify the course topic with which your PULSE assignment most aligns. *Refer to the various topics outlined under 'Course content and Schedule' in the syllabus (e.g. Inflammation).*
Neoplasia
5. What are the learning outcomes? *There should be a minimum of 2 learning outcomes for your assignments. For further information on learning outcomes, the Centre for Teaching and Learning offers information: https://teaching.uwo.ca/curriculum/coursedesign/learning-outcomes.html*
The 5 main learning outcomes are 1. Describing what glioblastoma is 2. Explain how it develops and spreads 3. Explaining the key genetic mutations

4. Describing the standard treatment process
5. Explain the poor prognosis

6. Why did the team select the chosen topic and the medium? How will the topic and medium of choice help learners?

We chose this topic due to the continuous growth of population with Cancer; we want to help prevent and spread knowledge about it. We chose a websiteas the medium since the information is presented in a structured, interactive, and visually engaging format.

This format supports a wide array of learning styles and helps breakdown complex scientific concepts into more accessible information.

7. Did the team use an artificial intelligence (AI) technology tool? If so, which AI technology tool(s) did the team use? What other technology tools did the team use? Is the technology tool novel? Is the team using this technology tool in a novel fashion? If the team did not use technology tool, why did the team decide against using the technology tool(s)?

Please include details (e.g., for what purpose was the tool used for? Why was the tool the best tool to use for your assignment? Are there alternative tools that were considered?)

We used AI as a supplementary tool during the assignment. It is used in the early stages to help brainstorm and organize our outline, connecting course neoplasia concepts to glioblastoma, and to check our voiceover scripts for grammar and readability.

8. How is your PULSE experiential assignment innovative and/or novel?

Describe what about the PULSE assignment is innovative/novel. Is there a particular component or content that is innovative/novel? How is it different from other content that already exists?

We are teaching a type of cancer that is not normally discussed in public vision. And we are also spreading awareness with the real-life MRI images for that disease.
Its innovation lies in how it transforms complex cancer biology concepts into an interactive and accessible website designed for non-scientific audience

9. If you used an AI tool, please copy and paste the prompt(s)/question(s) used along with the output(s)/answer(s) from the AI tool.

The response here is to allow others to replicate the team's work. If the prompts/outputs are lengthy (over 1 page), please attach it as a separate document and note below [Please see attached document].

1. We are making a PowerPoint presentation about glioblastoma for a pathology course. Can you help us brainstorm how to divide the topic into logical sections that connect to neoplasia concepts taught in class?
2. Can you suggest how to balance text and images on a PowerPoint slide so that it is easy for us to teach and for the audiences to understand better?

3. Can you check this voiceover script for grammar and readability?

10. If you did not use an AI tool, please attach a copy of the team's notes to the assignment.

The response here is to allow others to observe the 'behind the scenes' team's work.

11. How did the team ensure the veracity of the information presented in the PULSE assignment?

The response should highlight how the team has ensured that the information presented in the assignment is evidence-based and not spreading misinformation. You should specifically mention which databases (if any) or textbook materials you used, and how you kept track of the sources/references for each claim. If AI provided you with false information, please describe how the team has fact-checked the AI response and the legitimate (scientific) sources you used. A reference document should be provided in the reference section (15. References) below. Please ensure to include in-text citations in your assignment where applicable.

We used AI to find research that is associated with glioblastoma with the topics of our slides and then read the research to ascertain the veracity of it. We also used it to help with the topics of our slides alongside fact checking our scripts.

12. Write a meaningful team reflection about the PULSE session (max 250 words).

Prompts to help your team write the reflection: Were there any team/individual biases that surfaced when creating content for the assignment? Did the team implement any practices to ensure the content was equitable, diverse, and/or inclusive? How has the PULSE assignment helped with the team's learning? If the team had to estimate, how long did the assignment take? What worked well for your team? What would the team do differently next time? What were the opportunities and challenges with creating the PULSE assignment to help others' learning? Were there any barriers or limitations?

The assignment helped our team develop a deeper understanding of Glioblastoma. One of the biggest challenges that we as a group overcame was to translate complex scientific concepts into a language that a wide array of people can understand. Formatting the website with organization and ease of access in mind was one way we got around this challenge.

Another challenge we had to face was coordinating as a team to ensure the tasks are divided evenly and the quality of the work was consistent. Having weekly meetings with our group members helped us to work around this challenge as well, although we face additionally challenges coordinating the schedules for weekly available time.

One key component we would improve upon given the chance to do this project again would be organizing a detailed timeline with specific goals in mind before the start of the project rather than general deadlines.

13. Write the contributions of individual team members using unique initials.

Example: All team members contributed to the design of the prompts used in the technology tool, ChatGPT (GPT-3.5). T.K and T.K2 fact checked the information presented by ChatGPT using published literature on PubMed (PMID 29211319, 32477271). Y.Z finalized and formatted the final infographic and compiled the prompts and outputs. P.E was involved in…

MR: Researched and wrote the introductory website content covering the background to glioblastoma, the oncology, and core tumor terminology.

RH: Researched and developed the website sections on tumor invasion, mechanisms of spread, key genetic changes, oncogenes/tumor suppressors, and hallmarks of cancer.

DA: Researched and wrote Warburg effect, tumor dormancy, clinical presentation, local and systemic effects, and diagnostic approach in glioblastoma.

GG: Designed and built the website, also integrated the group's visuals, and helped refine the project so it was clear and engaging. Also assisted in other members with their parts.

14. Other comments (Optional)

Any comments the team would like to let the coordinator and/or TAs know.

15. References

Please provide a numbered reference list with Nature citation style. [Please feel free to use citation management software (i.e., free citation manager, e.g., Zotero and Mendeley)]

1. Llaguno, S. R. A. & Parada, L. F. Cell of origin of glioma: biological and clinical implications. **Br. J. Cancer** *115*, 1445–1450 (2016). https://www.nature.com/articles/bjc2016354
2. Brennan, C. W. *et al.* The genomic and molecular landscape of glioblastoma. **Cell** *155*, 462–477 (2013). https://www.cell.com/cell/fulltext/S0092-8674(13)01401-6
3. Omuro, A. & DeAngelis, L. M. Glioblastoma and other malignant gliomas: a clinical review. **Nat. Rev. Neurol.** *9*, 393–405 (2013). https://www.nature.com/articles/nrneurol.2013.110
4. Lathia, J. D., Mack, S. C., Mulkearns-Hubert, E. E., Valentim, C. L. L. & Rich, J. N. Cancer stem cells in glioblastoma. **Genes Dev.** *29*, 1203–1217 (2015). https://genesdev.cshlp.org/content/29/12/1203.full
5. Şakir Delil, Ş. *et al.* Glioblastoma cell invasion mechanisms. **Cancers** *14*, 443 (2022). https://www.mdpi.com/2072-6694/14/2/443
6. Castillo-Ordóñez, W. O. *et al.* Signaling pathways altered in glioblastoma. **Int. J. Mol. Sci.** *25*, 3040 (2024). https://www.mdpi.com/1422-0067/25/5/3040
7. Mair, M. J. *et al.* Molecular biomarkers and therapeutic targets in glioblastoma. **Cancers** *16*, 3635 (2024). https://www.mdpi.com/2072-6694/16/21/3635
8. Armed Forces Institute of Pathology (AFIP). Glioblastoma radiology. **Wikimedia Commons** (n.d.). https://commons.wikimedia.org/wiki/File:AFIP-00405589-Glioblastoma-Radiology.jpg
9. Hupé, P. Hallmarks of cancer. **Wikimedia Commons** (2011). https://commons.wikimedia.org/wiki/File:Hallmarks_of_cancer.svg
10. Wikimedia contributors. Glycolysis pathway. **Wikimedia Commons** (2011). https://commons.wikimedia.org/wiki/File:Glycolysis.svg
11. Endo, H. Cellular dormancy mechanisms. **Wikimedia Commons** (n.d.). https://commons.wikimedia.org/wiki/File:Mechanisms_of_cellular_dormancy.jpg
12. Wikimedia Commons contributors. Glioblastoma MRI with gadolinium contrast. **Wikimedia Commons** (n.d.). https://commons.wikimedia.org/wiki/File:Glioblastoma_-_MR_sagittal_with_contrast.jpg
13. Armed Forces Institute of Pathology (AFIP). Glioblastoma radiology. **Wikimedia Commons** (n.d.). https://commons.wikimedia.org/wiki/File:AFIP-00405558-Glioblastoma-Radiology.jpg
14. Louis, D. N. *et al.* The 2021 WHO Classification of Tumors of the Central Nervous System: a summary. **Neuro Oncol.** *23*, 1231–1251 (2021). https://academic.oup.com/neuro-oncology/article/23/8/1231/6311214
15. Wesseling, P. & Capper, D. Neuro-oncology update. **Acta Neuropathol.** (2022). https://pmc.ncbi.nlm.nih.gov/articles/PMC9427889/

16. Stupp, R. *et al.* Radiotherapy plus concomitant and adjuvant temozolomide for glioblastoma. **N. Engl. J. Med.** *352*, 987–996 (2005). https://www.nejm.org/doi/full/10.1056/NEJMoa043330
17. Wen, P. Y. & Packer, R. J. Neuro-oncology perspectives on CNS tumor classification. **Neuro Oncol.** *25* (Suppl. 4), iv1 (2023). https://academic.oup.com/neuro-oncology/article/25/Supplement_4/iv1/7289029
18. National Cancer Institute. Adult Brain Tumors Treatment (PDQ®)–Health Professional Version (2024). https://www.cancer.gov/types/brain/hp/adult-brain-treatment-pdq
19. Weller, M. *et al.* Glioblastoma. **Nat. Rev. Dis. Primers** *10*, 24 (2024). https://www.nature.com/articles/s41572-024-00524-y
20. Seker-Polat, F. et al. Tumor cell infiltration into the brain in glioblastoma: from mechanisms to clinical perspectives. *Cancers* **14**, 443 (2022). https://pubmed.ncbi.nlm.nih.gov/35053605/
21. Cuddapah, V.A. et al. A neurocentric perspective on glioma invasion. *Nat. Rev. Neurosci.* **15**, 455–465 (2014). https://pubmed.ncbi.nlm.nih.gov/24946761/
22. Seker-Polat, F. et al. Tumor cell infiltration into the brain in glioblastoma: from mechanisms to clinical perspectives. *Cancers* **14**, 443 (2022). https://pubmed.ncbi.nlm.nih.gov/35053605/
23. Cuddapah, V.A. et al. A neurocentric perspective on glioma invasion. *Nat. Rev. Neurosci.* **15**, 455–465 (2014). https://pubmed.ncbi.nlm.nih.gov/24946761/
24. Cancer Genome Atlas Research Network. Comprehensive genomic characterization defines human glioblastoma genes and core pathways. *Nature* **455**, 1061–1068 (2008). https://pubmed.ncbi.nlm.nih.gov/18772890/
25. Brennan, C.W. et al. The somatic genomic landscape of glioblastoma. *Cell* **155**, 462–477 (2013). https://pubmed.ncbi.nlm.nih.gov/24120142/
26. Cancer Genome Atlas Research Network. Comprehensive genomic characterization defines human glioblastoma genes and core pathways. *Nature* **455**, 1061–1068 (2008). https://pubmed.ncbi.nlm.nih.gov/18772890/
27. Stupp, R. et al. Radiotherapy plus concomitant and adjuvant temozolomide for glioblastoma. *N. Engl. J. Med.* **352**, 987–996 (2005). https://pubmed.ncbi.nlm.nih.gov/15758009/
28. Hanahan, D. & Weinberg, R.A. Hallmarks of cancer: the next generation. *Cell* **144**, 646–674 (2011). https://pubmed.ncbi.nlm.nih.gov/21376230/
29. Louis, D.N. et al. The 2021 WHO classification of tumors of the central nervous system: a summary. *Neuro-Oncology* **23**, 1231–1251 (2021). https://pubmed.ncbi.nlm.nih.gov/34185076/

16. Annotated Bibliography

An annotated bibliography is a list of sources (books, articles, websites, etc.) that you used for your project. Each entry has two parts:

1. *Citation – written in the required citation style (same formatting and order as the Nature citation style in your list of references).*
2. *Annotation – a short paragraph that summarizes, evaluates, and explains how the source is useful for your assignment.*

Why do this?

- *Helps you keep track of your research.*
- *Shows your instructor you read and understood your sources.*
- *Develops critical thinking by requiring you to evaluate the quality and relevance of each source.*

Write the annotation (about 150–200 words each)

- *Summary: Briefly describe the main argument or purpose of the source.*
- *Evaluation: Comment on the credibility, strengths, or weaknesses of the source.*
- *Relevance: Explain how you will use this source in your assignment.*

1. Llaguno, S. R. A. & Parada, L. F. Cell of origin of glioma: biological and clinical implications. *Br. J. Cancer* 115, 1445–1450 (2016). https://www.nature.com/articles/bjc2016354

It helped define some key terms of cancer alongside which types of cells the cancer originated from. The veracity of the article comes from the fact it was published in nature.

2. Brennan, C. W. *et al.* The genomic and molecular landscape of glioblastoma. *Br. J. Cancer* 114, 1397–1405 (2016). https://www.nature.com/articles/bjc2016354

It helped explain differentiation and the hallmarks of the cancer. The veracity of the authorship was verified with chatgpt as the author has over 88k citations.

3. Omuro, A. & DeAngelis, L. M. Glioblastoma and other malignant gliomas: a clinical review. *Nat. Rev. Neurol.* 9, 393–405 (2013). https://www.nature.com/articles/nrneurol.2013.110

This helped add to the presentation that glioblastoma has a fast rate of doubling and is highly invasive.

4. Lathia, J. D., Mack, S. C., Mulkearns-Hubert, E. E., Valentim, C. L. L. & Rich, J. N. Cancer stem cells in glioblastoma. *Genes Dev.* 29, 1203–1217 (2015). https://genesdev.cshlp.org/content/29/12/1203.full

This research helped define what is tumor heterogeneity.

5. Armed Forces Institute of Pathology (AFIP). Glioblastoma radiology image [photograph]. Wikimedia Commons. Public domain. https://commons.wikimedia.org/wiki/File:AFIP-00405589-Glioblastoma-Radiology.jpg

This radiology image was produced by the Armed Forces Institute of Pathology. It provides a real radiological representation of a glioblastoma tumor showing the characteristic appearance of the mass within the brain. Used in Slide 8

6. Şakir Delil, Ş. et al. Tumor cell infiltration into the brain in glioblastoma: from mechanisms to clinical perspectives. *Cancers* 14, 443 (2022). CC BY 4.0. https://www.mdpi.com/2072-6694/14/2/443

This open-access review published in Cancers, provides a comprehensive overview of the molecular mechanisms underlying GBM cell invasion. Used in slide 9

7. Castillo-Ordóñez, W.O. et al. Glioblastoma: an update in pathology, molecular mechanisms and biomarkers. *Int. J. Mol. Sci.* 25, 3040 (2024). CC BY 4.0. https://www.mdpi.com/1422-0067/25/5/3040

This open-access review published in the International Journal of Molecular Sciences, provides an up-to-date and comprehensive summary of GBM molecular pathogenesis including genetic alterations, signaling pathway disruptions, and emerging biomarkers. Used in slide 10

8. Mair, M.J. et al. Evolution of molecular biomarkers and precision molecular therapeutic strategies in glioblastoma. *Cancers* 16, 3635 (2024). CC BY 4.0. https://www.mdpi.com/2072-6694/16/21/3635

This open-access review published in Cancers, examines the evolution of molecular biomarkers in GBM and their implications for targeted therapy. Used in slide 11

9. Hupé, P. Hallmarks of cancer [diagram]. Wikimedia Commons, 2011. CC BY-SA 3.0. https://commons.wikimedia.org/wiki/File:Hallmarks_of_cancer.svg

This diagram was created by Philippe Hupé and is freely available on Wikimedia Commons. It is a widely recognized illustration of the hallmarks of cancer framework

originally described by Hanahan and Weinberg, one of the most cited frameworks in all of cancer biology. Used in slide 12

10. Seker-Polat, F. et al. Tumor cell infiltration into the brain in glioblastoma: from mechanisms to clinical perspectives. *Cancers* **14**, 443 (2022). https://pubmed.ncbi.nlm.nih.gov/35053605/

Peer-reviewed open-access review confirming GBM cells invade beyond the visible tumor margin, making complete surgical resection impossible. Used to support the core claim of slide 8.

11. Cuddapah, V.A. et al. A neurocentric perspective on glioma invasion. *Nat. Rev. Neurosci.* **15**, 455–465 (2014). https://pubmed.ncbi.nlm.nih.gov/24946761/

Nature Reviews article providing mechanistic evidence that GBM invasion is an active coordinated process. Used to confirm that invasive cells migrate invisibly beyond the visible tumor mass.

12. Seker-Polat, F. et al. Tumor cell infiltration into the brain in glioblastoma: from mechanisms to clinical perspectives. *Cancers* **14**, 443 (2022). https://pubmed.ncbi.nlm.nih.gov/35053605/

Primary research source for all four GBM invasion routes covered in slide 9. Confirms perivascular space and white matter tracts are the most preferred routes.

13. Cuddapah, V.A. et al. A neurocentric perspective on glioma invasion. *Nat. Rev. Neurosci.* **15**, 455–465 (2014). https://pubmed.ncbi.nlm.nih.gov/24946761/

Used to support the specific claim that GBM can cross the corpus callosum to produce butterfly glioblastoma via white matter tract spread.

14. Cancer Genome Atlas Research Network. Comprehensive genomic characterization defines human glioblastoma genes and core pathways. *Nature* **455**, 1061–1068 (2008). https://pubmed.ncbi.nlm.nih.gov/18772890/

Landmark genomic study establishing that RTK, TP53, and RB pathways are simultaneously disrupted in GBM. Source for EGFR, PTEN, and TP53 frequency statistics used in slide 10.

15. Brennan, C.W. et al. The somatic genomic landscape of glioblastoma. *Cell* **155**, 462–477 (2013). https://pubmed.ncbi.nlm.nih.gov/24120142/

Large-scale genomic study confirming EGFR amplification, PTEN loss, and IDH status as defining GBM features. Used to verify mutation frequency statistics and IDH wild-type classification.

16. Cancer Genome Atlas Research Network. Comprehensive genomic characterization defines human glioblastoma genes and core pathways. *Nature* **455**, 1061–1068 (2008). https://pubmed.ncbi.nlm.nih.gov/18772890/

Foundational source for EGFR as dominant oncogene and PTEN/TP53 as primary tumor suppressors in GBM. Supports the molecular marker framework presented in slide 11.

17. Stupp, R. et al. Radiotherapy plus concomitant and adjuvant temozolomide for glioblastoma. *N. Engl. J. Med.* **352**, 987–996 (2005). https://pubmed.ncbi.nlm.nih.gov/15758009/

Landmark clinical trial establishing MGMT methylation as a predictor of temozolomide response. Used to support the claim that molecular markers directly guide GBM treatment decisions.

18. Hanahan, D. & Weinberg, R.A. Hallmarks of cancer: the next generation. *Cell* **144**, 646–674 (2011). https://pubmed.ncbi.nlm.nih.gov/21376230/

Seminal paper defining the hallmarks of cancer framework used in slide 12. The most cited paper in Cell's history and the direct basis for the entire conceptual framework of this slide.

19. Louis, D.N. et al. The 2021 WHO classification of tumors of the central nervous system: a summary. *Neuro-Oncology* **23**, 1231–1251 (2021). https://pubmed.ncbi.nlm.nih.gov/34185076/

Definitive reference for current GBM diagnostic criteria including IDH, EGFR, TERT, and chromosome changes. Used across slides 10, 11, and 12 to ensure content reflects current clinical standards.

1. Louis, D. N., Perry, A., Wesseling, P., et al. (2021)

The 2021 WHO Classification of Tumors of the Central Nervous System: A Summary. *Neuro-Oncology, 23(8), 1231–1251.*

https://academic.oup.com/neuro-oncology/article/23/8/1231/6311214

Annotation:
This article provides the official World Health Organization classification system for central nervous system tumors. The paper explains how glioblastoma is defined using both histological features and molecular markers such as IDH mutation status and chromosomal alterations. The 2021 classification emphasizes the growing importance of molecular diagnostics in identifying and categorizing brain tumors. This source was used to explain glioblastoma grading, classification, and diagnostic criteria in the project.

2. Torp, S. H., et al. (2022)

The WHO 2021 Classification of Central Nervous System Tumours: A Practical Update. *Acta Neurochirurgica.*

https://pmc.ncbi.nlm.nih.gov/articles/PMC9427889/

Annotation:
This article summarizes the key changes introduced in the 2021 WHO CNS tumor classification system. It explains how molecular genetic information is now integrated with traditional pathology to improve diagnostic accuracy. The source was useful for understanding how glioblastoma is distinguished from other diffuse gliomas and for explaining the clinical relevance of molecular markers.

3. Stupp, R., Mason, W. P., van den Bent, M. J., et al. (2005)

Radiotherapy plus Concomitant and Adjuvant Temozolomide for Glioblastoma. *New England Journal of Medicine, 352, 987–996.*

https://www.nejm.org/doi/full/10.1056/NEJMoa043330

Annotation:
This landmark clinical trial established the modern standard treatment for glioblastoma. The study demonstrated that combining radiation therapy with the chemotherapy drug temozolomide significantly improved patient survival compared with radiation therapy alone. The treatment protocol developed in this study, known as the **Stupp protocol**, remains the standard of care for newly diagnosed glioblastoma patients.

5. Ostrom, Q. T., Price, M., Neff, C., et al. (2023)

CBTRUS Statistical Report: Primary Brain and Other Central Nervous System Tumors Diagnosed in the United States. *Neuro-Oncology.*

https://academic.oup.com/neuro-oncology/article/25/Supplement_4/iv1/7289029

Annotation:
This statistical report provides epidemiological data on brain tumors, including incidence, survival rates, and demographic trends. It is widely used by researchers studying brain tumors and provides reliable statistics about glioblastoma prevalence and prognosis. This source was used to support statements regarding survival rates and the frequency of glioblastoma among adult brain tumors.

6. National Cancer Institute (NCI). (2024)

Adult Central Nervous System Tumors Treatment (PDQ®).

https://www.cancer.gov/types/brain/hp/adult-brain-treatment-pdq

Annotation:
This resource provides evidence-based clinical information about brain tumor diagnosis, treatment, and prognosis. It explains treatment approaches including surgery, radiation therapy, chemotherapy, and emerging therapies. The source was useful for verifying the standard treatment course for glioblastoma and for explaining how treatment strategies are used in clinical practice.

7. Weller, M., van den Bent, M., Preusser, M., et al. (2024)

Glioma. *Nature Reviews Disease Primers.*

https://www.nature.com/articles/s41572-024-00524-y

Annotation:
This review article provides a comprehensive overview of gliomas, including their molecular biology, tumor development, and treatment strategies. It explains the mechanisms that drive tumor growth, invasion, and resistance to therapy. The article was helpful for explaining the biological mechanisms underlying glioblastoma and the challenges involved in treating this aggressive tumor.

- Please submit the completed activity with the new file name: **PULSE Team #__**
- Ensure that all team members are listed in the table above and tagged in Gradescope
- Please submit another copy of the completed activity that removes the “Team member names” table, “Other comments” rows, and the footer text with the new file name: **PULSE FINAL Team #__** (This copy will be attached to the PULSE assignment when shared as an open educational resource with other learners with consent). Please remove any personal or protected information.
- Max total file size for images, audio, and videos to be publicly shared is 800 MB. The recommended time limit for audio or video is 20 minutes.
- In your submission, please include a separate file of a thumbnail to be shared publicly.
- Remove this red text footer in your submission files