

LESSON PLAN – Computer Programming

Title: Hobbits vs. Nazgul – End

Essential Questions	Can we model life-like behavior with Python? How can we apply our expanded understanding of data types and storage?
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Learning Objectives :	Students will be able to: <ul style="list-style-type: none"> ● Implement fully functional 2-organism cellular automata ● Present a clear and organized display of the game grid over multiple generations ● Evaluate group effectiveness
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Standards (CSDF)	
9-12.CT.4	Implement a program using a combination of student-defined and third-party functions to organize the computation.
9-12.CT.5	Modify a function or procedure in a program to perform its computation in a different way over the same inputs, while preserving the result of the overall program.
9-12.CT.7	Design or remix a program that utilizes a data structure to maintain changes to related pieces of data.
9-12.CT.8	Develop a program that effectively uses control structures in order to create a computer program for practical intent, personal expression, or to address a societal issue.
9-12.CT.9	Systematically test and refine programs using a range of test cases, based on anticipating common errors and user behavior.
9-12.CT.10	Collaboratively design and develop a program or computation artifact for a specific audience and create documentation outlining implementation features to inform collaborators and users.

Teaching Materials:

Student handouts (attached)

Student computers

Procedure:

- I. Checklist from previous day
 - A. Confirm that previous day's tasks are complete
 - B. Adjust plan to allow for time outside of class if progress is an issue
- II. Division of labor
 - A. Students will complete any needed finishing touches
 - B. Students will evaluate themselves and their group members, and make sure time tracking document is shared with instructor
- III. Student work time

End of project review form - Hobbits & Nazguls

Name: _____

Review for: _____

On a scale of 0 - 10 how good were they about documenting their work: _____

On a scale of 0 - 10 how good were they about doing their share of the work: _____

Comments:

On a scale of 0 - 10 how good were they about communicating with the group: _____

Comments:

On a scale of 0 - 10 how would you rate the quality of their work: _____

Comments:

Final thoughts and any helpful suggestions you would like to share with them anonymously:

Day 10 Checklist:

Conclusion and self-evaluation

You must have the following tasks accomplished before the end of class today.

Accomplished	Task
●	<p>Make sure you have completed all of the tasks from yesterday's (Day 9) checklist</p> <p>Do you need to schedule time outside of class in case progress is an issue? Discuss with your team.</p>
●	Finish remaining predator logic
●	Put on your finishing touches
●	<p>Conclusion and evaluation</p> <ul style="list-style-type: none"> ● How did it go? ● How do you think your team performed in this assignment? ● Where do you think your team excelled in this project? ● Where do you think your team struggled or needed improvement? ● Was/were there anything that prevented your team to get the project completed on time? ● How could you prevent this problem from happening again?

