Tested Studies for Laboratory Teaching
Proceedings of the Association for Biology Laboratory Education
Volume 38, Article 55, 2017

Swamp Scurry: A Game for the Cell Cycle and Its Regulating Factors

Huong Nguyen and Debra Mauzy-Melitz

University of California – Irvine, Department of Biological Sciences, 16357 San Jacinto St., Fountain Valley CA 92708 USA
(**huongtn2@uci.edu**; **dmauzyme@uci.edu**)

Games are a fun and effective tool that can be used to teach students fundamental concepts about the cell cycle while highlighting the importance of cell cycle regulation. There is a need for additional educational tools for development and cell biology for high school or lower-division students before they take upper-division classes. We developed a board game called Swamp Scurry that teaches the fundamental concepts of cell cycle including stages, regulation, and termination. The cyclical nature of the game conceptualizes the cyclical pattern of cell development. The dynamic and interactive point system (CDK, ubiquitin) represents the regulation and termination of the cell cycle. Swamp Scurry is based on a fictionalized swamp where players, represented by animals, must compete for survival. Students who answer the most questions correctly earn the most points, complete more cell cycles, develop their organism faster and thus they win. Questions used in this game are flexible, and can be modified by instructors to customize topic or complexity. This module was tested in two sections of an upper-division biological writing class at University of California, Irvine in 2015. 92.8% of students found the game to be fun of which 28% indicated they prefer using this game as a review tool, but indicated the tool should not replace lecture. Overall, Swamp Scurry would be a good supplement to traditional didactic lectures when used as a review tool in not only developmental and cell biology classes, but in any science classes from high school to college levels.

Mission, Review Process & Disclaimer

The Association for Biology Laboratory Education (ABLE) was founded in 1979 to promote information exchange among university and college educators actively concerned with teaching biology in a laboratory setting. The focus of ABLE is to improve the undergraduate biology laboratory experience by promoting the development and dissemination of interesting, innovative, and reliable laboratory exercises. For more information about ABLE, please visit **http://www.ableweb.org/.**

Papers published in *Tested Studies for Laboratory Teaching: Peer-Reviewed Proceedings of the Conference of the Association for Biology Laboratory Education* are evaluated and selected by a committee prior to presentation at the conference, peer-reviewed by participants at the conference, and edited by members of the ABLE Editorial Board.

Citing This Article

Nguyen H and Mauzy-Melitz D. 2017. Swamp Scurry: A Game for Cell Cycle and Its Regulating Factors. Article 55 In: McMahon K, editor. Tested studies for laboratory teaching. Volume 38. Proceedings of the 38th Conference of the Association for Biology Laboratory Education (ABLE). http://www.ableweb.org/volumes/vol-38/?art=55