

# Understanding Phylogenetic Trees as Hypothesis Testing Tools with HHMI's™ Lizard Evolution Virtual Lab

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The Lizard Evolution Virtual Lab from HHMI-BioInteractive engages students in the collection and analysis of authentic data on Anolis lizards to investigate adaptation, convergent evolution, reproductive isolation, and speciation. The lab is organized in four modules, providing flexibility and scalability for use in a variety of courses and settings. This workshop will introduce the first two modules. In the first module, students make observations and collect and interpret data that suggest that different lizard species display adaptations that fit their ecological niches. In the second module, students use phylogenetic trees to test hypotheses about the evolutionary history of these species and their adaptations. Participants of this workshop will experience the lab as a student, collecting data and answering questions through the virtual lab platform, while also gathering tips and suggested modifications from an educator who has used this virtual lab in her course. Connections to Vision and Change will be integrated into the presentation.

## 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.

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