Closing the Gap in the Open Educational Resources (OER) Life Cycle



with HHMI BioInteractive Resources



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Applying the OER Life Cycle for Teaching Materials

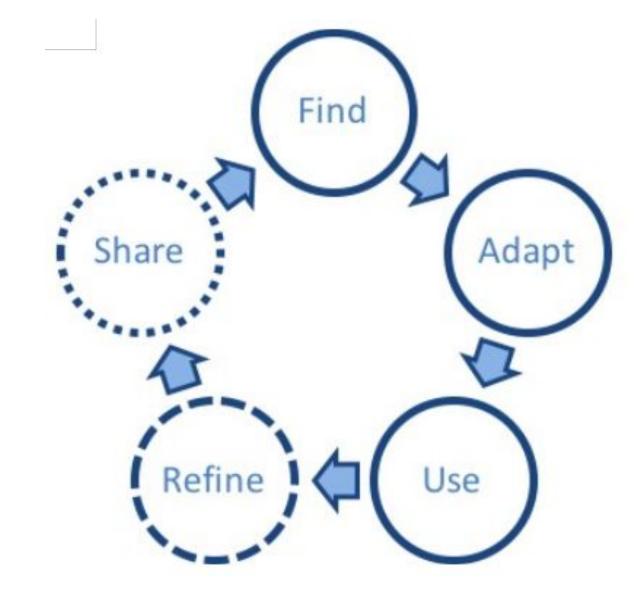
Step 1: Find teaching materials for the classroom

Step 2: *Adapt* the resource so that it is relevant for your class and students

Step 3: Use your adapted teaching materials and assess student learning

Step 4: Refine the materials after implementation and assessment

Step 5: *Share* your refined product on an OER platform so that others can find and use



OER cycle model for education resources Source: Adapted from Atkins et al. 2007

OER Life Cycle Barriers

While the accessibility of publically available teaching materials has substantially improved, barriers remain for resharing:



- Awareness
- Lack of infrastructure
- Academic culture and lack of incentives

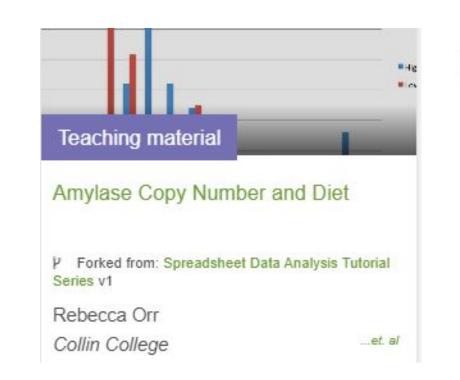
Find out more about OER and data-based teaching resources from the DIG project!

https://qubeshub.org/groups/data_incubator Pls: Kaitlin Bonner, Arietta Fleming-Davies

What is QUBES? https://qubeshub.org/

- Quantitative Undergraduate Biology Education and Synthesis project
 - Math × Biology × Community
- Community building:
 - Supporting professional development through meetings and workshops
 - Online infrastructure for Faculty Mentoring Networks
 - Integrated computational tools
 - OER publishing platform for original and adapted resources
 - Key features:

Adaptations ("forking") and versioning



Citations with DOIs

Newtoff, K. N., Squair, C., Homer-Drummond, S. M., Goulet, T. (2018). Expanded Graphing Tutorial. HHMI BioInteractive FMN (2017), QUBES. doi:10.25334/Q45M37 BibTex | EndNote

Access metrics

135 total view(s), 36 download(s)

HHMI BioInteractive on QUBES

https://qubeshub.org/groups/hhmibiointeractive



Current Resources:





Adaptive radiation and convergent

of Caribbean populations

Finch Evolution our decades of research on finch traits across the evolutionary history species that live only on the

Galápagos Islands.

Example Original BioInteractive Record on QUBES:



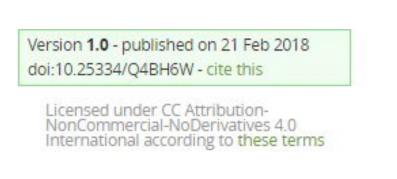
By HHMI BioInteractive

their materials: (More coming soon!)

a 82 downloads

Over the past four decades, biologists Rosemary and Peter Grant have documented the evolution of the famous Galápagos finches

Listed in Teaching Materials | resource by group HHMI BioInteractive





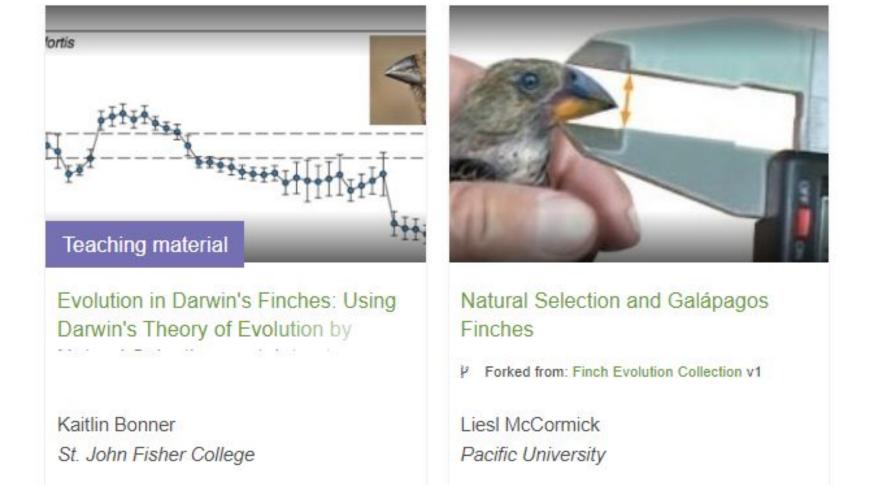
The Origin of Species: The Beak of the Finch Effects of Natural Selection on Finch Beak Size

BioInteractive Finch Resources

Evolution in Action: Data Analysis

Sorting Finch Species

Natural Selection and the Evolution of Darwin's Finches Beak of the Finch Film with Quiz



Example Educator Publications:

Some of these modifications were produced by participants in the 2016 HHMI/QUBES Faculty Mentoring Network.

Instructors collaborated to use these materials in different course contexts and with different student groups. As they

have shared their materials and insights into teaching with these materials, additional educators have also published

Future Directions: Expand the resouces and the community using them

50 downloads

Feedback? Interested in OER publishing your teaching materials? kgrayson@richmond.edu

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