

Phylogeny

By Edward Awad

Description:

In this single-class activity, students learn how to construct phylogenetic trees based on evolutionary traits using three different example scenarios. Students learn about biological diversity and the evolution of traits, and develop autonomous critical thinking skills and collaborative skills. See a full description [here](#).



Out of Class (Instructor)



Out of Class (Students)



In Class (Instructor)



In Class (Students)

Prepare for Class

- Review a [handout](#) provided by the instructor with the topics to be covered, including key concepts, learning outcomes, and assigned readings
- Do assigned readings and watch a video about phylogenetics

Do a Quiz to Test Knowledge

Do a quiz through Moodle to test what they have learned from the video and readings.

Introduce Activity

- Review material from the pre-assigned readings and answer student questions
- Introduce the activity and describe the first phylogeny scenario

Construct Phylogenetic Tree

- Get into groups of 2-3
- Analyze the scenario information on the [activity handout](#)
- Construct the phylogenetic tree on a Smartboard

Rethink about Construction Process

- Compare the phylogenetic trees with other groups in the class
- Answer questions based on the phylogenetic trees

Note: Recommended time:

- 20 minutes for the 1st scenario
- 15 minutes for the 2nd scenario
- 10 minutes for the 3rd scenario

Answer Student Questions

- Regroup the class to answer student questions
- Proceed with clicker questions (find questions and answers in [teacher guide](#))

Answer Clicker Questions

Answer clicker questions.

15 min

Revise Answers

Optional: If the majority of the class answers incorrectly on a particular question, take up that question with the entire class.



Legend

Context Icons:

- Individual Work
- Work in Groups

Task Icons:

- Problem Solve
- Analyze
- Create/Design
- Read
- Quiz/Test
- Instructor Orchestration

 **Practice More Questions** 

Practice questions assigned by the instructor related to the entire evolution unit.

Note: Answers are not assessed by the instructor.

