

Homologous Structures and Phylogeny

(adapted from the linked lesson: <http://www.indiana.edu/~ensiweb/lessons/mclad.ws.pdf>)

5 min Bell Ringer

6 min Engage- Students will watch the following video clip <https://youtu.be/P3GagfbA2vo> (0:00-5:54)

35 min Explore- Students will be grouped in pairs. They will use computers/tablets to fill out the chart below and create a venn diagram grouping species with similar characteristics together.

Evolution & Nature of Science Institutes (ENSI/SENSI) Lesson Plan: Making Cladograms

Name _____ SN _____ Date _____ Per. _____

CLADOGRAM WORKSHEET

Step 1: DATA TABLE

Animals

SETS	TRAITS	Kangaroo	Lamprey	Rhesus Monkey	Bullfrog	Human	Snapping Turtle	Tuna
SET 1	Dorsal Nerve Cord Notochord							
SET 2	Paired Appendages Vertebral column							
SET 3	Paired legs							
SET 4	Amnion (Amniotic sac)							
SET 5	Mammary Glands							
SET 6	Placenta							
SET 7	Canine teeth short Foramen magnum fwd							
	TOTALS of Xs----->							

Step 2: Venn Diagram:

10 min Explain- Students will now collaborate with another group and be able to compare ideas to create a final venn diagram and present to the class.

5 min Evaluate- Exit Ticket

Day 2- Students will continue working on the previous days work

5 min Engage- Students will be able to finish video <https://youtu.be/P3GagfbA2vo>

15 min Elaborate- Students will be able to create a phylogeny in their original pairs with the information they have gathered from their chart and venn diagram.

10 min Collaborate- Students will join another group and to explain their group's phylogeny and compare ideas to revise phylogeny

15 min Present- Each group will be able to present to the class

10 min Class Discussion- The following questions will be asked to create class discussion

1. What is a homologous structure?
2. What does it mean if two species have multiple homologous structures?
3. Why are phylogenies important to evolution?