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|  | |  |  | | --- | --- | | **Evidence for Evolution WebQuest** | | |  | | | Theodosius Dobzhansky, a geneticist whose work influenced 20th century research on evolutionary theory, said, "Nothing in biology makes sense, except in light of evolution." This quote emphasizes the role of [evolution](http://www.pbs.org/wgbh/evolution/library/glossary/index.html#evolution) as the most important unifying principle in biology. Living things might, at first, seem very diverse, but closer inspection reveals a surprising unity. This unity, or common ancestry, can be explained by evolutionary [theory](http://www.pbs.org/wgbh/evolution/library/glossary/index.html#theory). With such an important theory at stake, it is essential to understand the evidence upon which it is based. | | |  | | | **The Task** In this Evolution WebQuest you will investigate a variety of types of evidence for evolution. Your team will be responsible for learning about fossil evidence, structural evidence, and genetic evidence for evolution and presenting this information to the class. | | | **The Process** | | | 1. | If you are in school, your teacher will assign you to a group of five researchers. | |  | | | 2. | Each group will have specialists in anatomy and physiology, paleontology, and molecular biology. Anatomists study the structure of organisms, physiologists study the function of organisms, molecular biologists study genetics, and paleontologists study fossils. | |  | | | 3. | Review the sites that apply to your specialty. | |  | | | 4. | Find four to five examples of evidence for evolution. Try to find specific examples, so that when you present to the class you will all have different examples to share. Also, try to find the date on which the evidence was discovered. | |  | | | 5. | The recommended sites are just examples. Feel free to search for your own. | |  | | | |  | | --- | | **Anatomists** • [Evidence Supporting Biological Evolution](http://www.nap.edu/html/creationism/evidence.html) (see "Common Structures") • [How Scientists Study Evolution](http://encarta.msn.com) (search for "Evolution," click on "How Scientists Study Evolution," and look for "Anatomical Similarities") • [What Is Morphology and Why Is It Important?](http://www.biology.ucsc.edu/classes/bio170/enteromorpha/Morphology.html) • [Fossils Can Show How Certain Features Evolved](http://www.ucmp.berkeley.edu/education/explorations/tours/stories/middle/C7.html) • [It's a Bird, It's a Dinosaur?](http://www.sciam.com/explorations/062397dino/powell.html) | | **Molecular Biologists** • [Evolution Makes Sense of Homologies](http://www.zoology.ubc.ca/%7Ebio336/Bio336/Lectures/Lecture5/Overheads.html) • [Axing the Family Tree](http://biology.about.com/science/biology/library/weekly/aa070199.htm) • [Evidence of Evolution](http://anthro.palomar.edu/evolve/evolve_3.htm) • [Chemical Clues to Darwin's Abominable Mystery](http://www.sciam.com/article.cfm?id=chemical-clues-to-darwins) • [Salvaged DNA Leads to Neanderthals' Mystique](http://www.sciencenews.org/20000401/fob2.asp) | | **Paleontologists** • [Fossils Can Show How Certain Features Evolved](http://www.ucmp.berkeley.edu/education/explorations/tours/stories/middle/C7.html) • [Transitional Vertebrate Fossils FAQ](http://www.talkorigins.org/faqs/faq-transitional.html) • [Mother of All Mammals](http://www.discover.com/search/index.html) (search for "Andre Wyss" and "Andrew Knoll") • [Shaking the Family Tree](http://www.sciam.com/article.cfm?id=shaking-the-family-tree) • [Evolution Makes Sense of Homologies](http://www.zoology.ubc.ca/%7Ebio336/Bio336/Lectures/Lecture5/Overheads.html) • [The Nature of Fossils](http://daphne.palomar.edu/time/time_1.htm) • [Dating Fossils](http://www.enchantedlearning.com/subjects/dinosaurs/dinofossils/Fossildating.html) • [Getting into the Fossil Record](http://www.ucmp.berkeley.edu/education/explorations/tours/fossil/9to12/intro.html) | | | |  | | | 6. | Reconvene with your group, or work on your own, to create a presentation chart that looks like this:   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  | | --- | --- | --- | |  | | | | Evidence for Evolution | | | |  | | | | **Special Areas of Interest** | **Evidence (descriptions or drawings)** | **Significance** | | | | | Anatomy |  |  | | Molecular Biology |  |  | | Paleontology |  |  |   (If you are working alone, try to find two examples for each specialty.) | |  | | | 7. | Present this chart to the class. | |
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