



# Evidence for Evolution



There are three lines of evidence that *indirectly* support the theory of evolution. They are: **Comparative Biochemistry, Comparative Anatomy, and Comparative Embryology.** Each of the lines of evidence is discussed below. Use the information provided to answer the questions.

## Comparative Biochemistry

Scientists use the amino acid sequence of *proteins (proteins are made of amino acids in a specific sequence unique to each protein)* to determine evolutionary relatedness. The closer an organism's amino acid sequences the greater the likelihood that they are related. Use the following amino acid sequences to determine our ancestry.

Organism	Amino Acid Sequences														
Baboon	Asn	Thr	Thr	Gly	Asp	Glu	Val	Asp	Asp	Ser	Pro	Gly	Gly	Asn	Asn
Chimpanzee	Ser	Thr	Ala	Gly	Asp	Glu	Val	Glu	Asp	Thr	Pro	Gly	Gly	Asn	Asn
Lemur	Asn	Thr	Ser	Gly	Glu	Lys	Val	Glu	Asp	Ser	Pro	Gly	Ser	His	Asn
Gorilla	Ser	Thr	Thr	Gly	Asp	Gly	Val	Glu	Asp	Ser	Pro	Gly	Gly	Ala	Asn
Human	Ser	Thr	Ala	Gly	Asp	Glu	Val	Glu	Asp	Thr	Pro	Gly	Gly	Ala	Asn



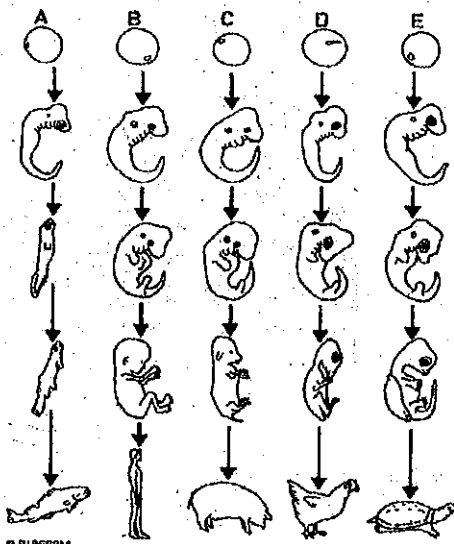
Data Table		
Primate	# of amino acid differences from human	% different
Baboon		
Chimpanzee		
Lemur		
Gorilla		
Human		

## Analysis & Conclusions

1. Which primate is *most closely* related to humans?
2. Which primate is *least closely* related to humans?
3. Construct a phylogenetic diagram of your results.



## Comparative Embryology



## Analysis & Conclusions (cont.)

4. Discuss the evidence to the left, and how it supports the theory of evolution.



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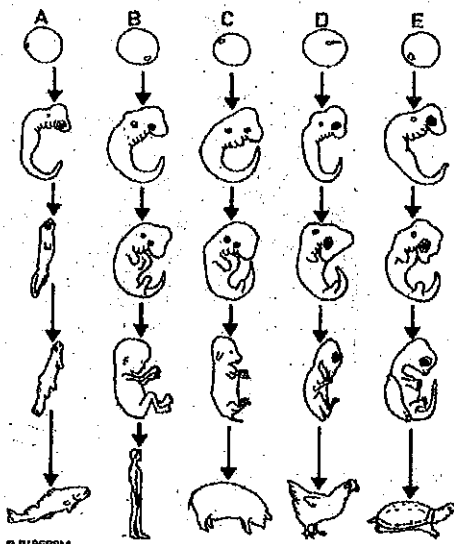
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