

Name \_\_\_\_\_ Block \_\_\_\_\_ Date \_\_\_\_\_

Study Guide – Evolution and Classification

Members of the same species are able to \_\_\_\_\_.

A group of individuals of the same species in the same place is called a \_\_\_\_\_.

A trait that helps organisms survive and reproduce is called an \_\_\_\_\_.

Any change in the genetic make-up (gene pool) of a population over time is \_\_\_\_\_.

When every member of a species disappears, this is known as \_\_\_\_\_.

Evolution suggests that separate species are descended from a \_\_\_\_\_.

Modified physical traits from a common ancestor are \_\_\_\_\_.

Physical structures from evolutionary ancestors with no modern function are \_\_\_\_\_.

Complete the chart below to summarize sources of evidence that support the theory of evolution.

Evidence	Description	How it supports evolution	Example
Fossils			
Comparative Anatomy			
Embryology			
Biomolecular Information			

Complete the chart below to summarize the two main methods of dating fossilized remains of organisms.

Type of date	Description	Method of determining this type of fossil age	Example
Relative date			
Absolute date			

The process by which individuals with beneficial variations survive and reproduce better so that variation increases in the population is called \_\_\_\_\_.

The scientist who first proposed evolution occurred by natural selection is \_\_\_\_\_.

An organism's ability to reproduce and make offspring determines its \_\_\_\_\_.

Complete the chart below to summarize the "steps" of evolution by natural selection.

Name	Description	Example
Over-reproduction		
Variation		
Survival of the fittest		
Change in the population		

Explain why antibiotic resistance has increased in bacteria since humans started using antibiotics.

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Complete the following chart to compare two models of the process of evolution.

Model	Supported by...	Description
Punctuated equilibrium		
Gradualism		

Complete the following chart to describe 3 factors that determine the speed (rate) of evolution.

Factor	Increased by	Speeds up evolution because...	When the factor is low or not present...
Genetic diversity			
Rate of reproduction			
Selective pressure			

The evolution of a new species is called \_\_\_\_\_.

Complete the following chart to describe 3 processes that can lead to the development of new species.

Process	Description
Geographic isolation	
Behavioral isolation	
Adaptive radiation	

Describe the two methods scientists can use to classify organisms:

1. \_\_\_\_\_ 2. \_\_\_\_\_

Classification should indicate organisms' \_\_\_\_\_

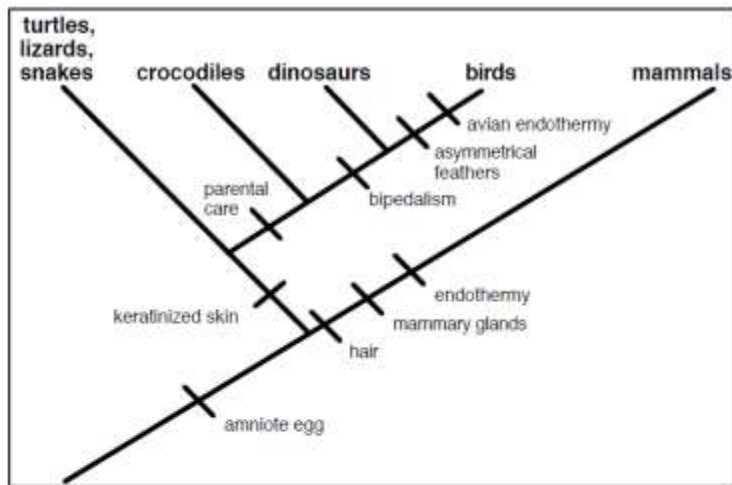
List the 8 taxa (levels of classification). Hint: Do kids prefer candy over fresh green salad?

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For each of the arrows below, write "least" and "most" at each end according to your taxa list above.







Name five characters possessed by birds: \_\_\_\_\_

Name two characters possessed by reptiles/birds (the group comprised of turtles, lizards, snakes + crocodiles + dinosaurs + birds; including their common ancestors): \_\_\_\_\_

Name four characters possessed by mammals (Note: one of the four has been lost by almost all mammal species): \_\_\_\_\_

According to the cladogram, which character evolved first: the amniote egg or hair? (circle one)

According to the cladogram, which character evolved first: keratinized skin or bipedalism? (circle one)

Answer the following questions to describe, compare, and contrast groups of animals, plants, and chordates.

- List at least 3 invertebrate animal phyla \_\_\_\_\_
- Describe the difference between the chordata phylum and all other animal phyla \_\_\_\_\_  
\_\_\_\_\_
- List at least 5 chordata classes \_\_\_\_\_
- Describe 3 characteristics that define the mammalian class \_\_\_\_\_  
\_\_\_\_\_

Complete the table below to describe the major plant divisions.

Division	Vascular tissue (Y or N)?	Spores or seeds?	Cones or flowers/fruit?	Examples
Mosses			N/A	Moss
Ferns			N/A	Ferns
Gymnosperms				
Angiosperms				