

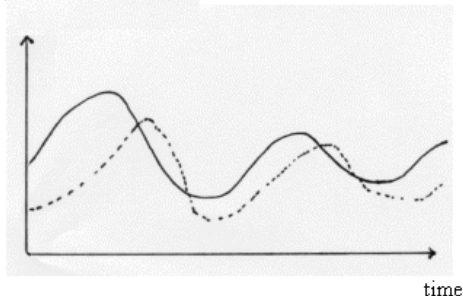
Unit 1 The Living World AP Exam Review

Predator Prey

1) Define Predator.

2) Define Prey.

PREDATOR- PREY RELATIONSHIP
population size



— = prey numbers ---- = predator numbers

3) Describe the trends from observations of the figure to the left:



Symbioses

4) Define Symbiosis.

5) Fill in the chart below on the different types of symbioses.

Symbiosis Type	Species 1 Interaction (Beneficial, Harmful, or Neutral)	Species 2 Interaction (Beneficial, Harmful, or Neutral)	Give a Real World Example

Competition and Resource Partitioning

6) What is competition?

7) How does competition sometimes lead to resource partitioning?

8) Compare interspecific to intraspecific competition.

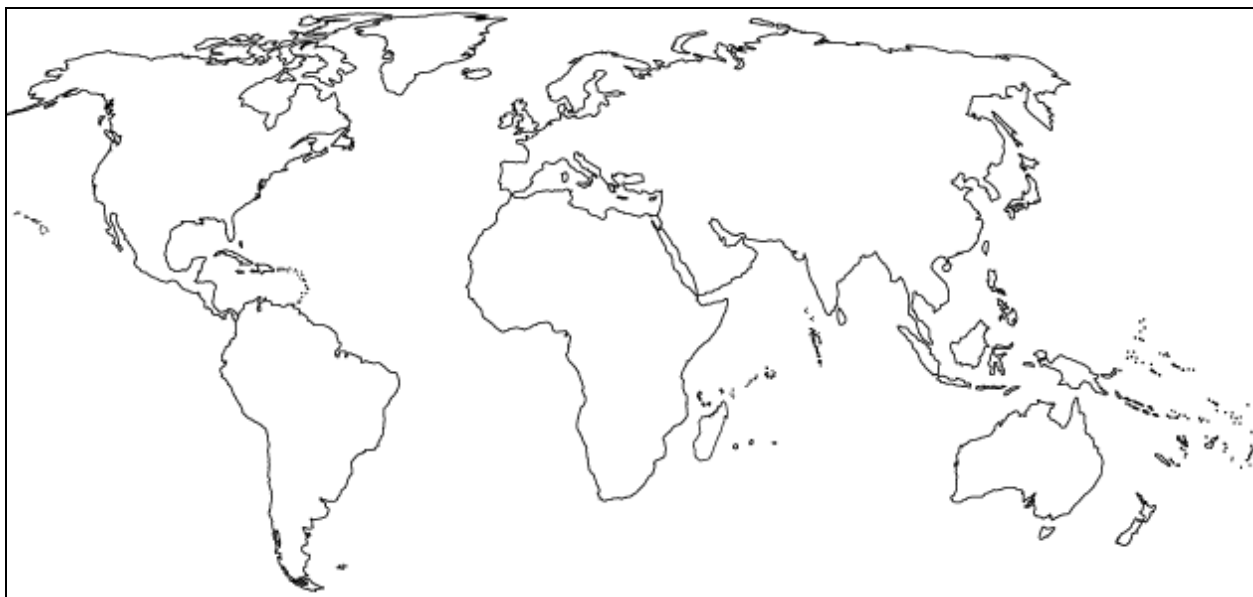
Terrestrial Biomes

9) Define the term biodiversity.

10) Define the term biome.

11) Sketch and/or label the following on the map of the world below:

- the equator
- the tropic of Cancer and the tropic of Capricorn
- the Mid-Atlantic Ridge
- the location of suppressed upwelling characteristic of the occurrence of El Niño
- the location of China, India, Ethiopia, Brazil, Bangladesh, and Fremont



12) Fill in the table below about the different terrestrial biomes of the world.

Type of Biome	Typical Location	Typical Climate	Characteristic adaptations for survival
Tropical Rain Forest			Plants – Animals –
Temperate Deciduous Forest			Plants – Animals –
Taiga (Boreal) Forest			Plants – Animals –
Tropical Grasslands (Savanna)			Plants – Animals –
Temperate Grassland (Prairie)			Plants – Animals –
Tundra (Cold Grassland)			Plants – Animals –
Desert			Plants – Animals –

13) For each of the following biomes, identify a specific country in which each biome occurs in relative abundance: (add to map)

Taiga _____
 Tropical rainforest _____
 Tropical grassland _____
 Temperate deciduous forest _____

Desert _____
 Temperate grassland _____
 Coral reef _____
 Tundra _____

Aquatic Biomes

14) Fill in the table below about the different aquatic biomes of the world.

Type of Biome	Typical Location	Typical Climate	Characteristic adaptations for survival
Coral Reef			Plants – Animals –
Open Ocean			Plants – Animals –
Kelp Forest			Plants – Animals –
Estuary/Wetland			Plants – Animals –

Biogeochemical Cycles: Carbon Cycle, Phosphorus, Nitrogen and Water Cycles

15) Complete the following table for these biogeochemical cycles:

Trait	Carbon	Nitrogen	Phosphorus	Water
Importance to life				
Largest reservoir				
Methods of transport				
Cycle duration (long/short)				

Detailed Nitrogen Cycle

16) Identify the characteristic process associated with each of the following.

Nitrification: _____

Denitrification: _____

Assimilation: _____

Nitrogen Fixation: _____

Ammonification: _____

Food Chains

17) Identify three examples of biotic components of an ecosystem and three examples of abiotic components of an ecosystem.

(1) _____

(1) _____

Biotic: (2) _____

Abiotic: (2) _____

(3) _____

(3) _____

18) Diagram a simple food chain in the space below. Label the trophic levels and illustrate the Rule of 10 with each trophic level. Start with 1,000,000 kCal in the primary producer level.

19) What happens when a predator is removed from the food chain or web?

1st and 2nd Law of Thermodynamics

20) Define the First Law of Thermodynamics

-Example

21) Define the Second Law of Thermodynamics

-Example

Gross Primary Productivity and Net Primary Productivity

23) Define GPP

24) Define NPP

25) What biomes have high NPP? Low NPP? Why?

GPP and NPP Math

26) Perform the following calculation. Show all of your work. If the grasses on a 100-hectare area of grassland grow at an average rate of 1 cm/day, the average volume of grass that is added to the grassland each day is _____ m³. If the density of the grasses that grow in the grassland averages 400 kg/m³, the net primary productivity is approximately _____ g/day or _____ g/year. 1 hectare = 10,000 m²

Show work:

