AP Bio FRQ Fridays

2017 #5
Cellular Respiration & Photosynthesis

FRQ Friday #7

2017 #5

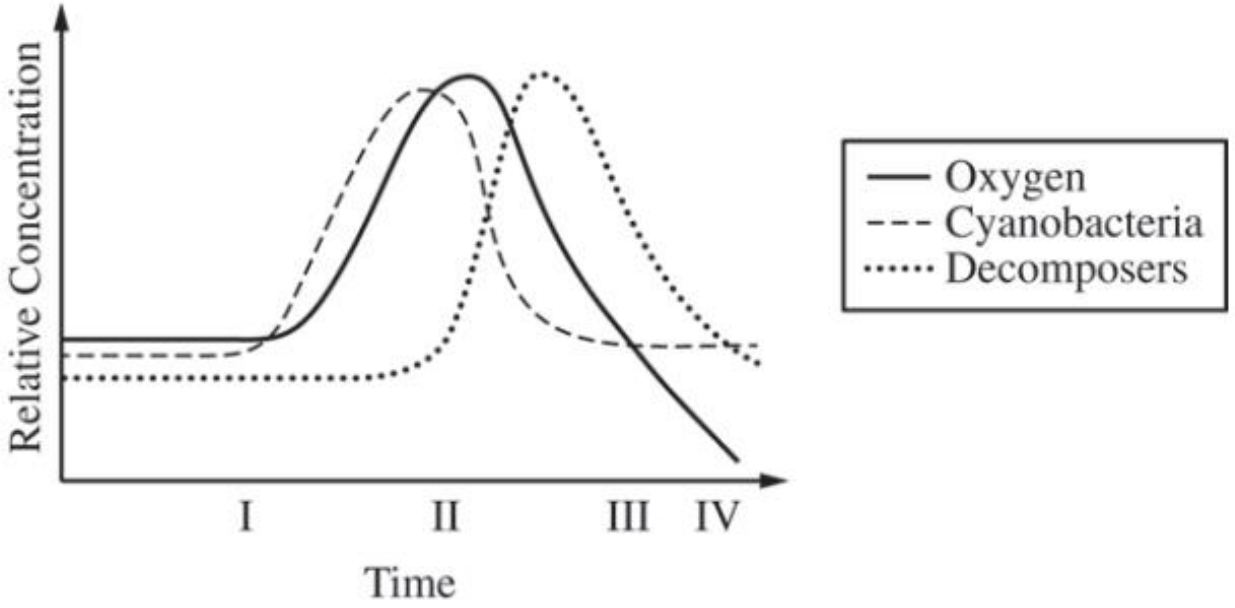
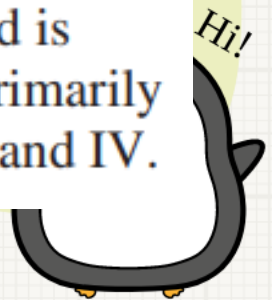


Figure 1. Characteristics of a pond community over time

Microcystis aeruginosis is a freshwater photosynthetic cyanobacterium. When temperatures increase and nutrients are readily available in its pond habitat, *M. aeruginosis* undergoes rapid cell division and forms an extremely large, visible mass of cells called an algal bloom. *M. aeruginosis* has a short life span and is decomposed by aerobic bacteria and fungi. **Identify** the metabolic pathway <u>and</u> the organism that is primarily responsible for the change in oxygen level in the pond between times I and II AND between times III and IV.



FRQ Friday #7

2017 #5

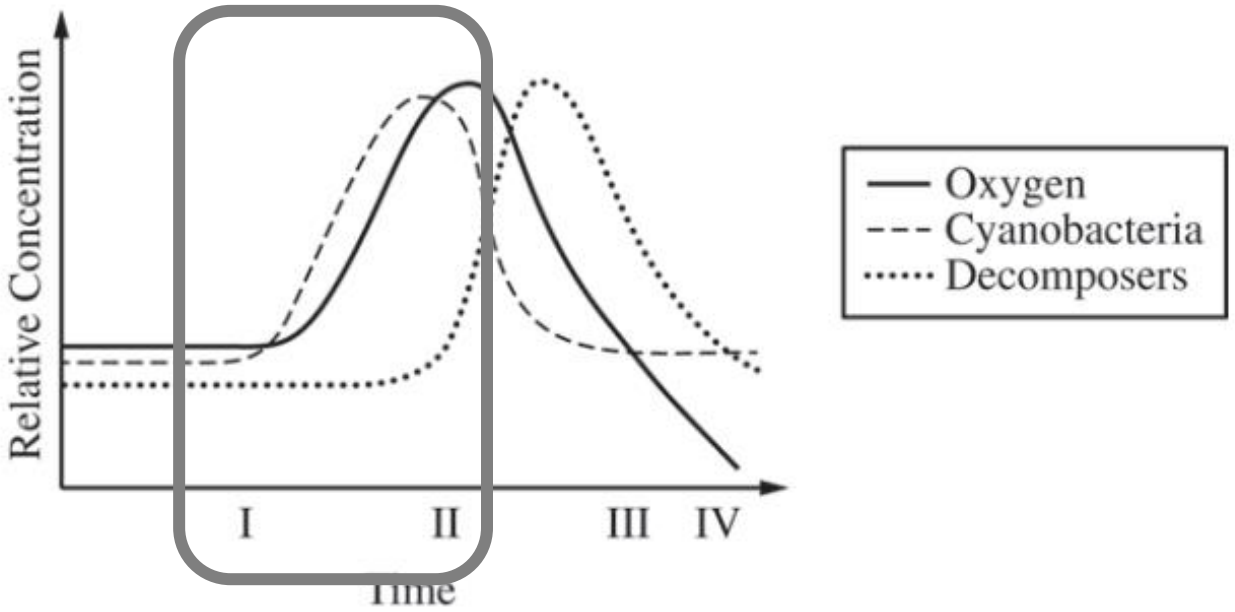


Figure 1. Characteristics of a pond community over time

Identification (2 points per row; 4 points maximum)

Time Period	Metabolic pathway **(1 point per box)**	Organism **(1 point per box)**
I – II	Photosynthesis	Cyanobacteria (*M. aeruginosis*)

FRQ Friday #7

2017 #5

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Time Period	Metabolic pathway **(1 point per box)**	Organism **(1 point per box)**
I – II	Photosynthesis	Cyanobacteria (*M. aeruginosis*)

The metabolic Pathway that is Primarily responsible for the change in oxygen level in the Pond between times I & II is Photosythesis & the organism responsible is the Photosynthetic cyanobacterium Microcystis aeruginosis. The

FRQ Friday #7

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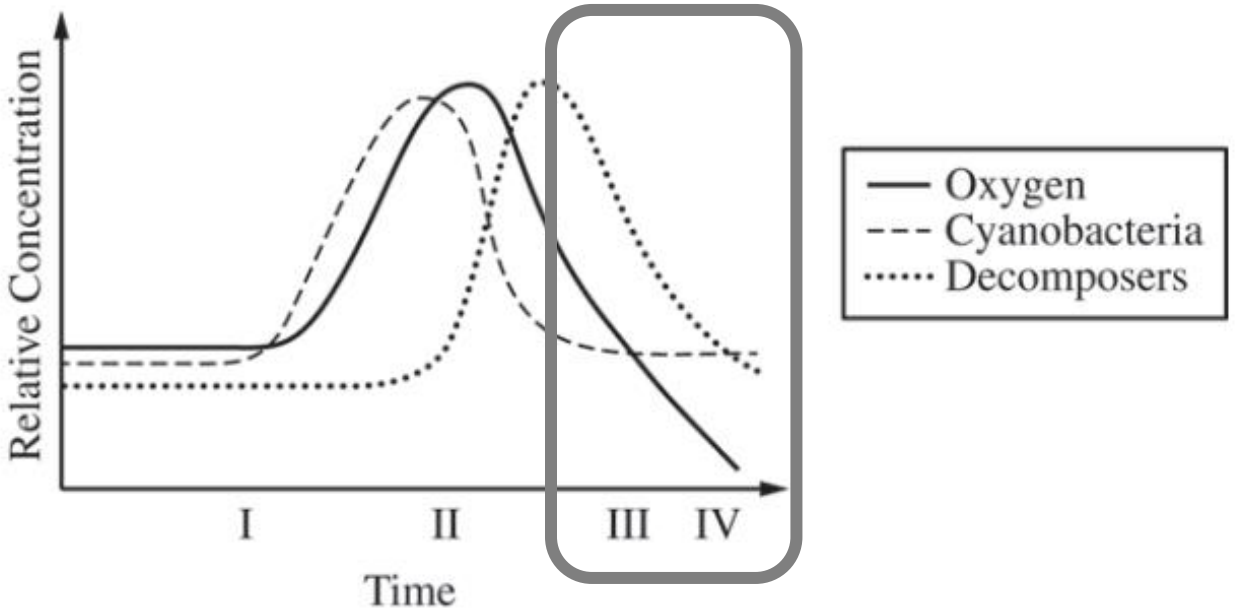

Figure 1. Characteristics of a pond community over time

Identification (2 points per row; 4 points maximum)

Time Period	Metabolic pathway **(1 point per box)**	Organism **(1 point per box)**
III – IV	Cellular respiration	Decomposers/fungi/bacteria

FRQ Friday #7

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Identification (2 points per row; 4 points maximum)

Time Period	Metabolic pathway **(1 point per box)**	Organism **(1 point per box)**
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cyanobacterium Microcystis aeruginosis. The metabolic pathway that is primarily responsible for the change in oxygen level in the pond between times III & IV is cellular respiration & the organism responsible is the aerobic bacteria & fungi/decomposers.