

The cover page features a central light green rounded rectangle containing the main text. The background is a light gray grid. Various biological and school-related icons are scattered around the central area, including DNA double helices, a pencil, a notebook, paper clips, and a penguin.

AP Bio

FRQ Fridays

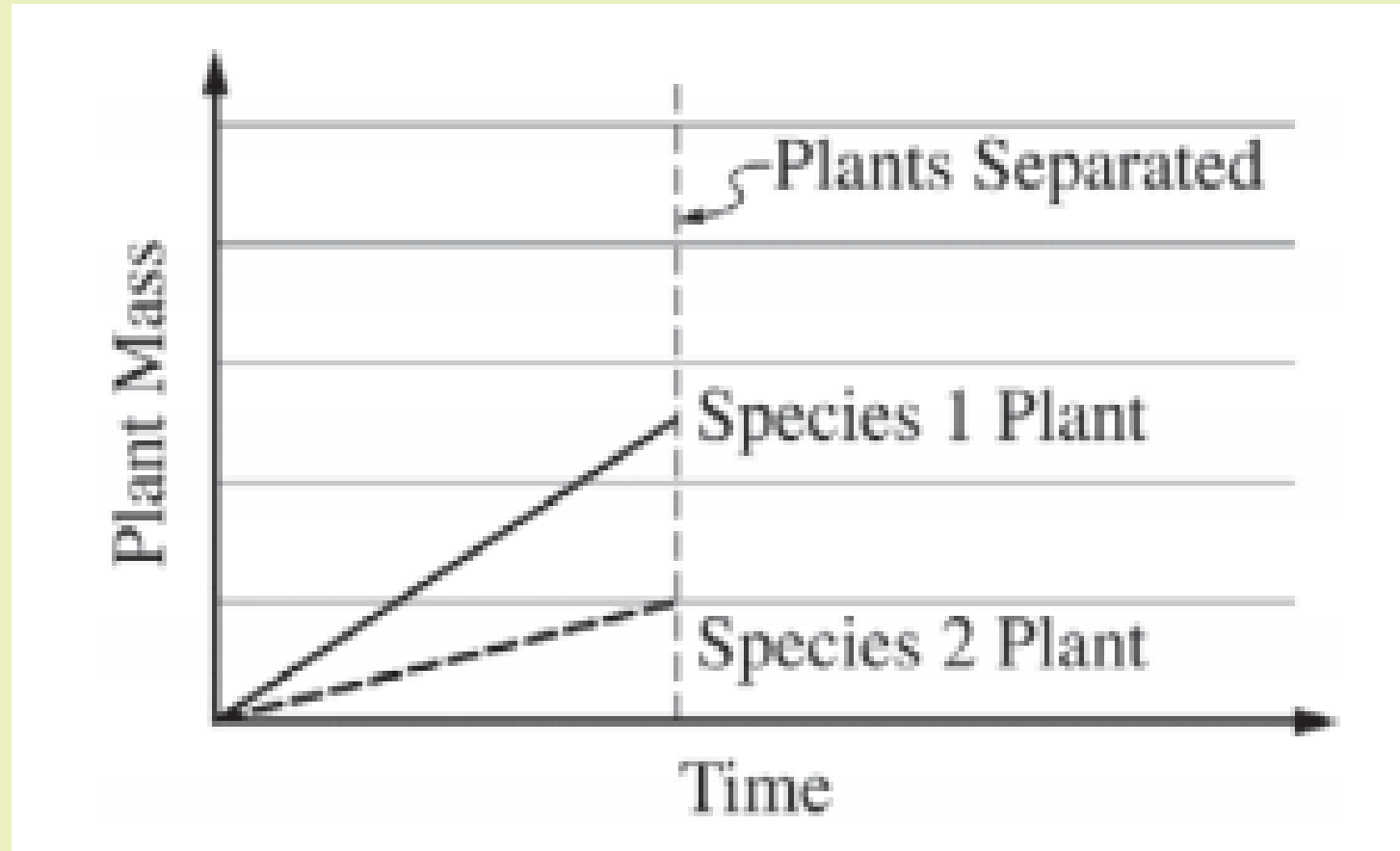
2016 #5
Biological Interactions



FRQ Friday #24

2016 #5

The graph above shows the mass of plants from two different species over time. The plants grew while attached to each other. The plants were separated at the time indicated by the vertical line in the graph.

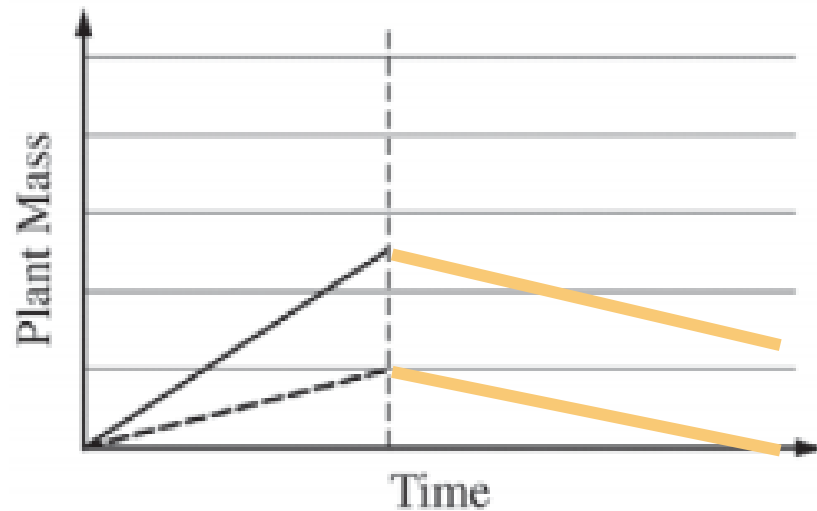


FRQ Friday #24

2016 #5

Using template 1, **graph** the predicted shape of the plant-mass lines after separation of the two plants if the plants were in an obligate mutualistic relationship. On template 2, **graph** the predicted shape of the plant-mass lines if the species 2 plant was a parasite of the species 1 plant. **Justify** each of your predictions.

TEMPLATE 1: OBLIGATE MUTUALISM



Graph characteristics

(1 point each graph; 2 points maximum)

Both of the growth curves level off or decline.

Justification

(1 point each box; 2 points maximum)

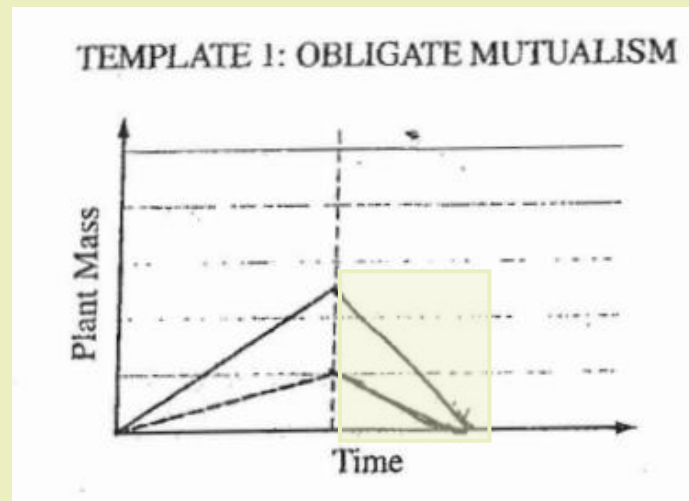
- Each species depends on the other for survival.
- Without the relationship, both species are harmed.



FRQ Friday #24

2016 #5

Using template 1, **graph** the predicted shape of the plant-mass lines after separation of the two plants if the plants were in an obligate mutualistic relationship. On template 2, **graph** the predicted shape of the plant-mass lines if the species 2 plant was a parasite of the species 1 plant. **Justify** each of your predictions.



If both plants ^{species} 1 and 2 ~~are~~ had an obligate mutualism relationship, they would ~~not~~ need the other to survive so they would both die out when separated. If ~~the~~ plant ^{species} 1

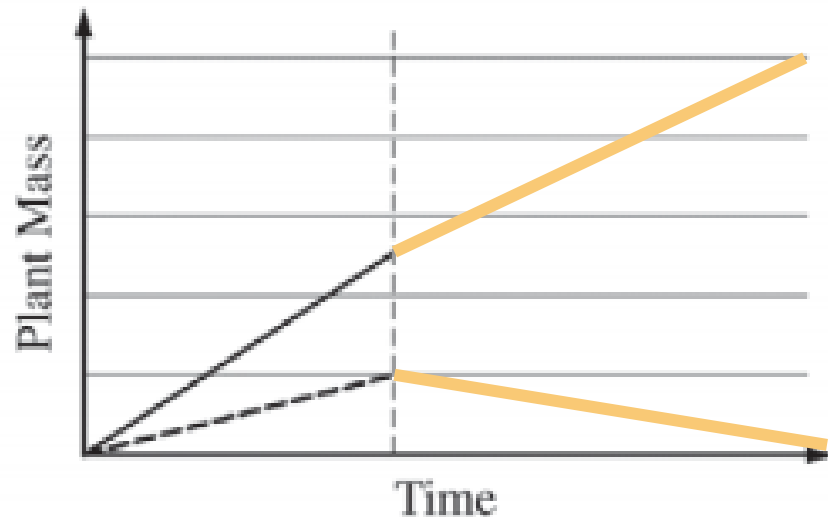


FRQ Friday #24

2016 #5

Using template 1, **graph** the predicted shape of the plant-mass lines after separation of the two plants if the plants were in an obligate mutualistic relationship. On template 2, **graph** the predicted shape of the plant-mass lines if the species 2 plant was a parasite of the species 1 plant. **Justify** each of your predictions.

TEMPLATE 2: PARASITISM



Graph characteristics
(1 point each graph; 2 points maximum)

Species 1 continues to increase while species 2 levels off or declines.

Justification
(1 point each box; 2 points maximum)

- The parasite requires an association with the host to survive but harms the host.
- Without the relationship, the parasite cannot survive while the host continues to grow.

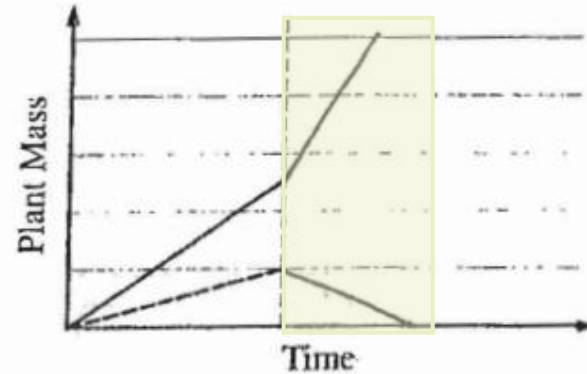


FRQ Friday #24

2016 #5

Using template 1, graph the predicted shape of the plant-mass lines after separation of the two plants if the plants were in an obligate mutualistic relationship. Graph the predicted shape of the plant-mass lines if the species 2 plant was a parasite.

TEMPLATE 2: PARASITISM



Graph the predicted shape of the plant-mass lines if the species 2 plant was a parasite.

so they would both die out when separated. If ~~the~~ plant^{species} 2 was a parasite of plant species 1, then ~~the~~ the species 2 plant would be harmful to the species 1 plant but need it to survive, ~~there~~ so the species 2 plant would die out due to a lack of a host while the species 1 plant would thrive without the harmful parasite of the two plants were separated.

