Name _____ Date _____ Period _____

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Symbiosis

Biology

Answer in complete sentences where asked. Show your work for calculations and use the data as evidence.

1. Classify each relationship as mutualism, commensalism, or parasitism.

Relationship	Type of symbiosis
(a) Fleas feed on a dog's blood	
(b) A fungus helps tree roots take up nutrients and receives sugars	
(c) An orchid grows on a tree branch and the tree is not clearly affected	

2. Write the effect on each partner as + (benefits), 0 (not clearly affected), or − (harmed). Then name the type.

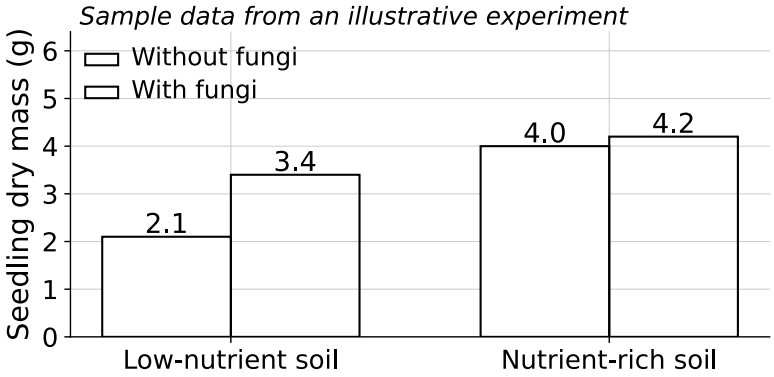
(a) Partner 1: + Partner 2: +

(b) Partner 1: + Partner 2: −

(c) Partner 1: + Partner 2: 0

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3. Seedlings were grown with and without a mycorrhizal fungus in two soils (sample data).



(a) Calculate the percent increase in seedling mass with fungi in low-nutrient soil. Show your setup and round to the nearest tenth.

(b) Write a claim, evidence, and reasoning to answer: does the benefit of the fungi depend on the soil?

4. A farmer adds a large amount of fertilizer to a field.

(a) Predict how this might change how much crop plants benefit from mycorrhizal fungi. Use the data from problem 3.

(b) A parasite that kills its host very quickly can be at a disadvantage. Explain why.

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