

Tiny Helpers

Use evidence to evaluate claims about helpful microorganisms.

S5L4.a "Construct an argument using scientific evidence to support a claim that some microorganisms are beneficial."

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline each sentence that makes a claim about helpful microorganisms. Then number two pieces of evidence that support one claim, so you can see how evidence supports a scientific argument.

Microorganisms at Work

- ① Microorganisms are living things too small to see without a microscope. Some are helpful. At a city garden, workers added compost made with bacteria and fungi to soil around tomato plants. These microorganisms broke down old leaves and food scraps. As they decomposed the scraps, nutrients moved into the soil. Tomato roots could then take in those nutrients to grow.
- ② In a greenhouse test, scientists gave similar tomato seedlings equal sunlight, water, and plant nutrients. They added a mixture of helpful soil bacteria to one group of pots. The other group got no added bacteria. After six weeks, seedlings with bacteria were taller and grew more tomatoes. This evidence supports the claim that some soil bacteria benefit tomato plants.
- ③ Microorganisms can also help people make foods. In yogurt, certain bacteria change milk sugars into lactic acid. This makes yogurt thick and tangy. These bacteria are beneficial when people use them safely to make food. However, some microorganisms can cause illness or spoil food. Evidence about one helpful kind should not be used to claim that every microorganism is helpful.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 What claim do the greenhouse results support about soil bacteria?

2 Which two results from the greenhouse test are evidence for this claim?

3 Explain why the greenhouse comparison supports the claim about soil bacteria.

4 Write a claim about yogurt bacteria and give two details from the passage that support it.

3 YOUR TURN _____ Your own words

A bakery mixes yeast into one bowl of dough. After one hour, the dough with yeast rises to twice its starting height, while dough without yeast stays the same height. Write exactly three sentences: make a claim that yeast is beneficial, give the evidence, and explain how the evidence supports your claim.

PART 1 • READ AND MARK

Underline each sentence that makes a claim about helpful microorganisms. Then number two pieces of evidence that support one claim, so you can see how evidence supports a scientific argument. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What claim do the greenhouse results support about soil bacteria?	Some soil bacteria benefit tomato plants.
2	Which two results from the greenhouse test are evidence for this claim?	After six weeks, seedlings with bacteria were taller and grew more tomatoes.
3	Explain why the greenhouse comparison supports the claim about soil bacteria.	Both groups received equal sunlight, water, and plant nutrients, but only one group received added bacteria. The group with bacteria grew taller and more tomatoes, so the bacteria likely helped the plants.
4	Write a claim about yogurt bacteria and give two details from the passage that support it.	Yogurt bacteria are beneficial when used safely to make food. They change milk sugars into lactic acid, which makes yogurt thick and tangy.

PART 3 • YOUR TURN (SAMPLE ANSWER)

Yeast is beneficial in bread making. Dough with yeast rose to twice its starting height, while dough without yeast did not rise. This evidence shows that yeast helps bakers make risen bread dough.

Accept claims that identify yeast as beneficial and accurately use both dough-height results as evidence. The explanation should connect the rising dough to yeast helping make bread.