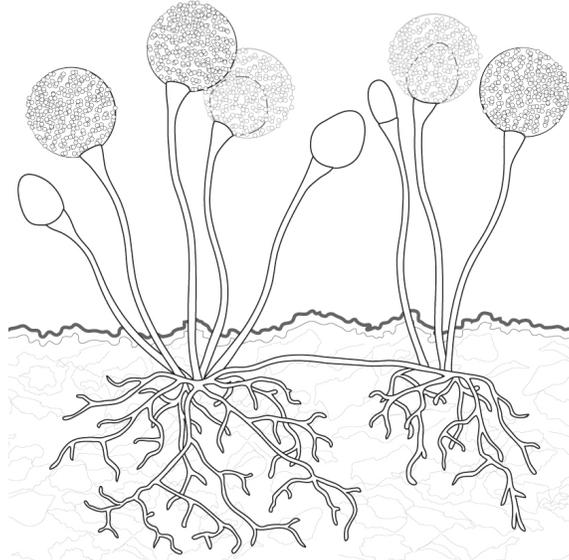


## 6.2: Bread Mold Worksheet

**A.** Draw and label arrows that represent the molecules that carbon atoms are in as they move into, through and out of the bread mold as it grows.

Label each arrow to show the kind of molecules that the carbon atoms are in: large organic molecules (LOM), small organic molecules (SOM), or carbon dioxide (CO<sub>2</sub>).



**1. What happens to the bread as the bread mold lives and grows?**

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**2. How do the bread mold's cells get oxygen from the air when they grow and function? What do they do with the oxygen?**

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### **B. Investigating how bread mold grows and functions**

A class is investigating the process of bread mold in decomposition. A teacher describes a scenario where there is a piece of bread with mold sitting on a paper plate. The teacher asks, "What do you think the mass of the bread with mold on the plate will be after two weeks?"

**3. Three students shared their ideas about what happened. Choose whether you agree, disagree, or are not sure about each claim:**

Agree	Disagree	Not sure	Margaret claims: "I think the whole system (both plate with bread with mold) will <b>lose mass</b> because the bread mold takes in molecules from the bread and converts them into CO <sub>2</sub> that is released into the air."
Agree	Disagree	Not sure	Abdul claims: "I think the whole system will <b>get heavier</b> because the bread mold gets bigger as it grows on the bread."
Agree	Disagree	Not sure	Camila claims: "I think the whole system will have <b>the same mass</b> because the molecules in the bread will be converted into bread mold that stays on the plate."

**4. Provide an explanation. Why did you agree or disagree with each student's claim? What are you not sure about?**

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The class does an experiment. They weighed 5 pieces of bread just beginning to grow mold and set each one on a different plate. They put the plates in a warm, moist room and left them alone for two weeks. At the end of that time, they reweighed the bread with the mold. Below are their results.

Sample	Original mass of bread on plate (g)	Mass of bread on plate with mold after two weeks (g)
1	30.0	27.8
2	33.2	31
3	32.9	30.6
4	33.4	33.2
5	33.1	29.0
<b>Average</b>	<b>32.52</b>	<b>30.32</b>

**5. What patterns do you see in the data?**

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**6. Which claim do you think is best supported by the data? (Circle one choice.)**

- Margaret's claim
- Abdul's claim
- Camila's claim

7. Explain how the patterns in the data support the claim that you chose.

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8. What additional evidence would you collect to help show that the claim you chose is the best claim?

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**C. A question about how bread mold grows and functions**

A loaf of bread was left alone for 2 weeks. Three different kinds of mold grew on it. Assuming the bread did not dry out, which of the following is a reasonable prediction of the mass of the bread and mold after the 2-week period?

9. The mass is going to:

- a. *increase*, because the mold has grown.
- b. *remain the same* because the mold converts bread into biomass.
- c. *decrease* as the growing mold converts bread into energy.
- d. *decrease* as the mold converts bread into biomass and gases.

10. Explain your reasoning. Why does the mass of the bread and mold change in the way you selected above?

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**D. Something interesting about bread mold**

11. What is something interesting that you learned about bread mold from your reading and discussion?

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