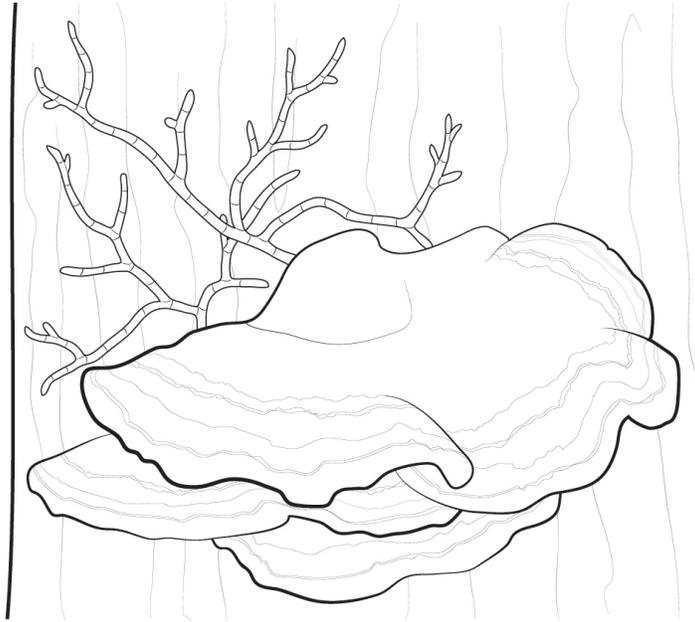


## 6.2: Bracket Fungi Worksheet

**A.** Draw and label arrows that represent the molecules that carbon atoms are in as they move into, through and out of the bracket fungus 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 wood of the tree as the bracket fungus lives and grows?

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**2.** How do a bracket fungus's cells get oxygen from the air as it grows? What do they do with the oxygen?

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### **B. Investigating how bracket fungi grow and function**

A class is investigating the process of bracket fungi in decomposition. A teacher describes a scenario where there is a branch with bracket fungus sitting in a pot of dirt. The teacher asks, "What do you think the mass of the branch with bracket fungus and the pot of dirt will be after two months?"

**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	Jackson claims: "I think the whole pot of (both dirt and branch with bracket fungus) will <b>lose mass</b> because the bracket fungus takes in molecules from the branch and converts them into CO <sub>2</sub> that is released into the air."
Agree	Disagree	Not sure	Kim claims: "I think the whole pot will <b>get heavier</b> because the bracket fungus gets bigger as it grows on the branch and nothing leaves the pot."
Agree	Disagree	Not sure	Josephina claims: "I think the whole pot will have <b>the same mass</b> because the molecules in the branch will be converted into dirt that stays in the pot."

**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 out 300 grams of dirt into 5 pots. They then weighed 5 branches just beginning to grow bracket fungi and set one on top of the dirt in each pot. They put the pots in a warm, moist room and left them alone for two months. At the end of that time, they reweighed the branches and the dirt. Below are their results.

Sample	Change in mass of branch with bracket fungus (g)	Change in mass of dirt (g)
1	-18.0	+1.2
2	-8.2	+1.1
3	-12.9	-1.1
4	-23.4	+1.3
5	-3.1	-1.1
<b>Average</b>	<b>-13.2</b>	<b>+1.1</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.)**

- Jackson's claim
- Kim's claim
- Josephina'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 bracket fungi grow and function**

A dead branch from an oak tree was left alone for 4 weeks. Bracket fungus started to grow on it. Assuming the branch did not dry out, which of the following is a reasonable prediction of the mass of the dead branch and bracket fungus after the 4-week period?

**9. The total mass (of the branch and fungus combined) is going to:**

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

**10. Explain your reasoning. Why does the mass of the oak tree and bracket fungus change in the way you selected above?**

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**D. Something interesting about bracket fungi**

**11. What is something interesting that you learned about bracket fungi from your reading and discussion?**

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