

Decaying Fruit Ecosystem

Follow the steps to create 4 different decaying fruit ecosystems.

Step 1: Set Up Bags

- Label four bags with the following: Room Temperature, Hot, Cold, Bleach

- Place about $\frac{1}{4}$ of banana in each bag.



- Smash the banana in each bag until it is a watery consistency.
- Add $\frac{1}{4}$ cup of warm water to each bag.
- Add 1 teaspoon of bleach to only the Bleach bag.



- Squeeze as much air out of each bag as you can and seal the top. There will be some small air bubbles in each bag. If one bag has a lot more air in it than the other bags, try to squeeze out more air.
- Place the Room Temperature bag and the Bleach bag in your assigned location in the classroom.
- Place the bags for Hot and Cold in your assigned location:
 - Cold: In the refrigerator
 - Hot: On a window sill where the sun shines or under a heat lamp
- Use a smartphone or tablet to take a picture of each bag. Then you will be able to compare the bags at the start of the experiment to the bags at the end of the experiment to see if there have been any changes.
- Wait 3-5 days. Do not touch the bags.

Step 2: Make Observations

- Write down your observations about the bags right after you put them in their specific locations.
-
- After 3-5 days, you will make a second set of observations. Leave the bags where they are sitting flat. Do not open or touch the bags while you make observations.
- Compare the way the bags look now to the way they look in the picture that you took on the first day.
- Pay attention to the change in the size of the air bubbles. Also look for any foam that has formed in the bag. If there is more air in the air or foam in the bag it means that the bacteria have eaten more of the fruit, causing it to decay and produce gas.
- Record your observations about how the bags changed in the chart on the next page. For example, on the first day all of the bags probably had some small air bubbles. On the last day some of the bags look the same as the first day but other bags had bigger air bubbles and foam.
- Compare your results with other groups that tested their fruits at different temperatures to determine if your prediction about temperature was correct.



Changes in an Ecosystem

| Bag | Air and foam observations on 1st day | Air and foam observations on last day |
|---------------------|---|--|
| Room temperature | | |
| Hot | | |
| Cold | | |
| Bleach | | |