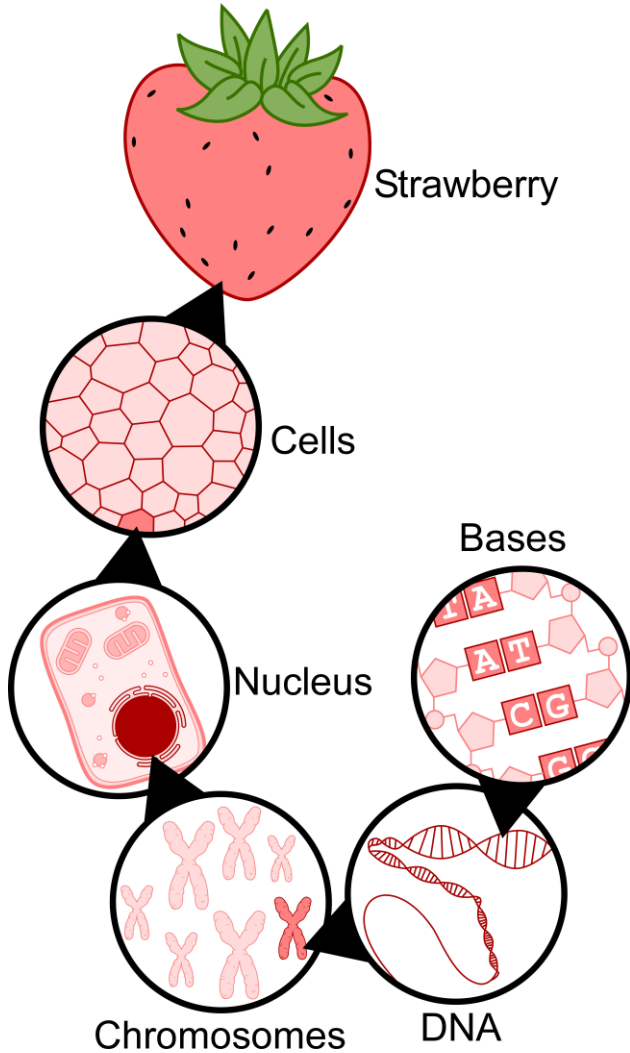


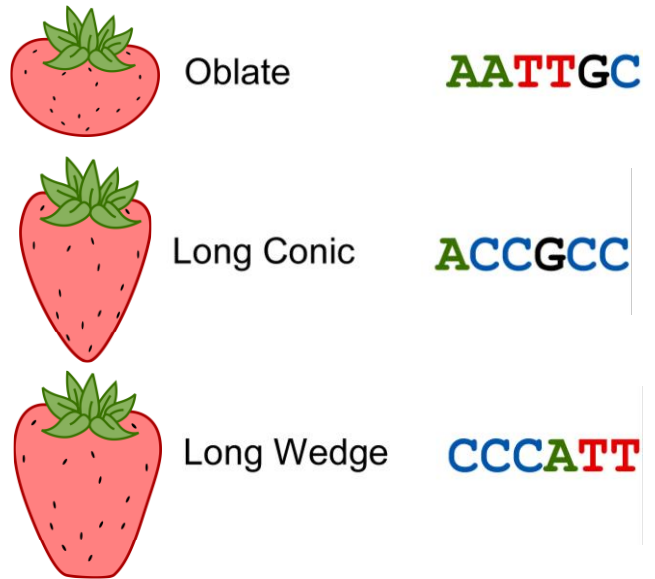



How much DNA is in a Strawberry?

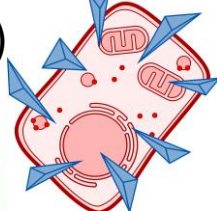


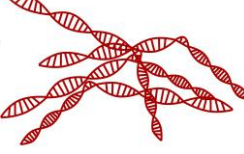
Each farm grows a different type of strawberry:


- Olive grows: Oblates
- Randy grows: Long Conics
- Sandy grows: Long Wedge



1) 
Freeze Strawberries

2) 
Lyse with Ice Crystal

3) 
Precipitate DNA

4) 
Sequence DNA

TGGTTAAATTGC
CCCATTTTCCGC
GTTGCCGGCCAT
CCGGTTACCGCC



DNA Extraction from Strawberries: Materials

Materials:

- Frozen Strawberries (2-3 strawberries)
- 50mL (~1/4 cup) Rubbing Alcohol (ex. 70% Isopropanol Alcohol)
- 25mL (~1/8 cup) Fresh Pineapple
- Large sandwich sized ziploc bag
- Cheesecloth or coffee filter
- Tumbler-like drinking glass (or plastic cup)
- Tall glass vessel (like a shot glass)
- Toothpick
- Gloves for less mess (optional)





DNA Extraction from Strawberries: Protocol

Make sure to have an adult do the experiment with you!

1. Freeze 2-3 strawberries the night before the experiment.
2. Gather all materials.
 - Measure out $\sim 1/4$ cup of rubbing alcohol.
 - Measure out $\sim 1/8$ cup of fresh pineapple juice.
3. Place frozen strawberries in the Ziploc bag.
4. Pour in $\sim 1/8$ cup of pineapple juice into the Ziploc bag.
5. Use your hand to squish the strawberry and pineapple together to thoroughly combine.
6. Place the cheesecloth or coffee filter over the container to strain the strawberry/pineapple solution.
7. Thoroughly strain the strawberry/pineapple solution into the container.
 - Use your hands to squish all the juice out into the container.
8. Pour the strained strawberry/pineapple solution into the tall reaction vessel.
9. Slowly and carefully add the rubbing alcohol to the juice solution.
10. Let sit for 3-5 minutes.
11. DNA will accumulate at the top of the tall reaction vessel. Use a toothpick to take out the DNA.

Watch Video on Next Slide for Experiment Demo



How much DNA is in the Strawberry?

[Watch Video](#)



What DNA sequence was in my Strawberry?

Once DNA has been extracted, we can sequence the DNA to get a unique amino acid sequence. Every species of strawberry has a different DNA sequence. What type of strawberry did you extract?

Match your DNA sequence found in your participant packet with the type of strawberry below!



Oblate

AATTGC

Long Conic

ACCGCC

Long Wedge

CCCATT