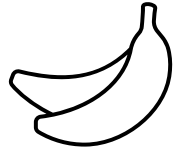


ONPAR Paper Task

Green Bananas (Printable)

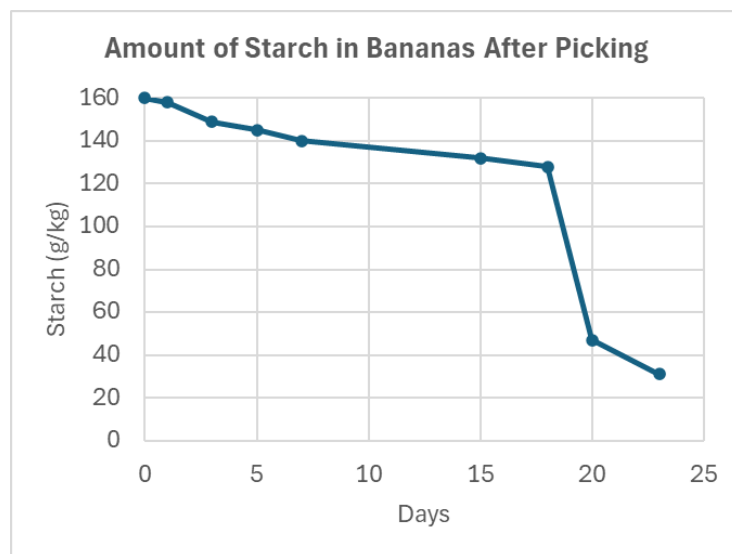


Luca goes to the kitchen to get a banana for breakfast but sees only green bananas, which he thinks taste terrible. Luca decides not to eat the bananas today but knows that if he waits until later the bananas will be yellow and will taste sweet.

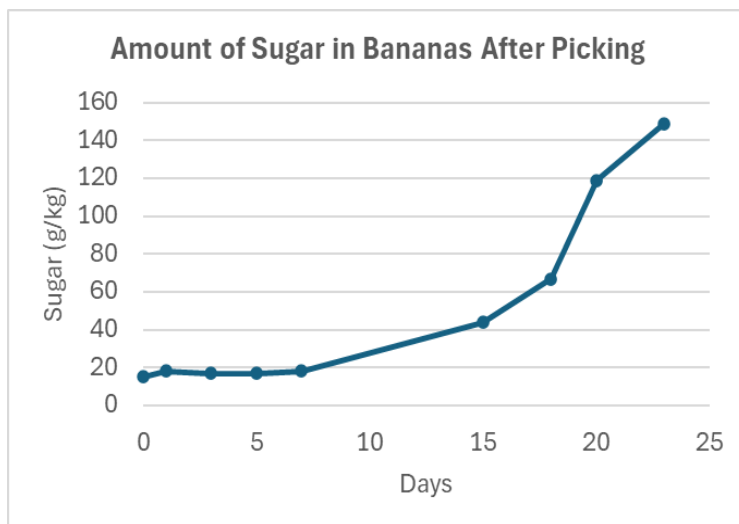


Luca wonders why bananas get sweeter as they get older. Where does the sweetness come from?

Luca investigates the amount of starch and sugar in green bananas after they are picked. The results are found below.



← green bananas yellow bananas →



Circle the correct answer(s) and fill in the blanks for each statement.

1. What pattern do you see in the amount of **starch** over time?

It _____ over time.
increases / decreases / stays the same

The biggest change happens between days _____ and _____.

2. What pattern do you see in the amount of **sugar** over time?

It _____ over time.
increases / decreases / stays the same

The biggest change happens between days _____ and _____.

3. What relationship do you see between the amount of starch and the amount of sugar?

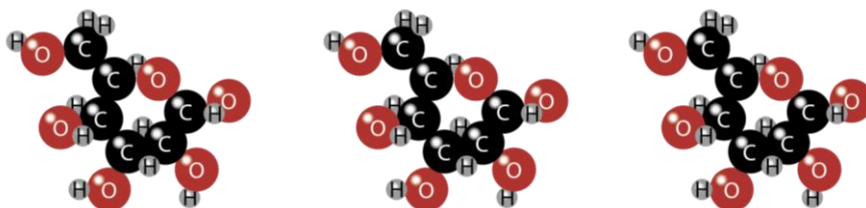
As the amount of _____, _____
starch / sugar rises / falls

the amount of _____, _____
starch / sugar rises / falls / stays the same

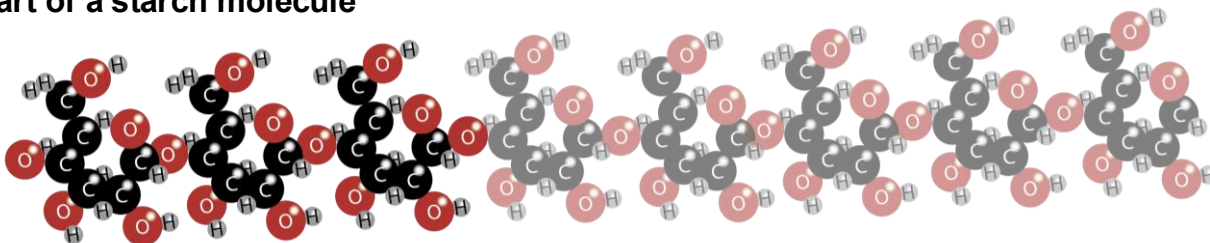
Luca learned that one of the main sugars in ripe bananas is glucose. He analyzed models of starch and glucose molecules to better understand the relationship between them in a banana.

Key		
type of atom	symbol	
	Oxygen	O
	Carbon	C
	Hydrogen	H

three glucose molecules



part of a starch molecule



4. What pattern do you see in the **types of atoms** in glucose and starch?

5. What relationship do you notice in the **arrangement of those atoms** for both glucose and starch?

6. Bananas contain an enzyme called *amylase*, that cuts starch into smaller pieces. Amylase becomes more active when fruit is ripening. Use all the information provided to explain where the sweetness come from in bananas. Circle the correct words to complete the explanation. Then describe the evidence that supports it.

Explanation: As a banana ripens, amylase causes _____
photosynthesis / *a chemical reaction* / *a physical change* / *osmosis*

that breaks _____ molecules into _____ molecules.
starch / glucose *starch / glucose*

Supporting evidence from the graphs: _____

Supporting evidence from the models: _____
