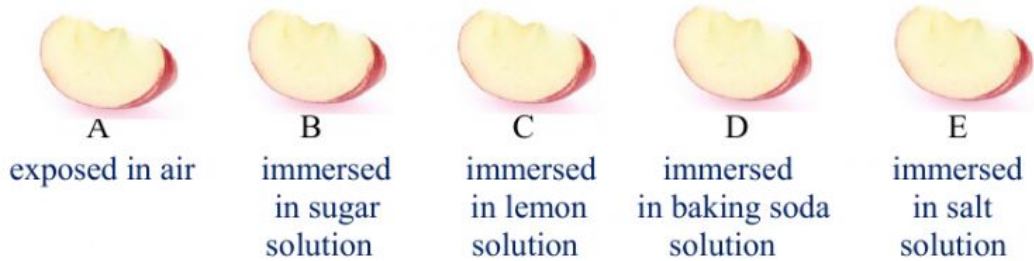


OXIDATION OF APPLE

5 slices of apple are prepared as shown below and leave them for 15 minutes.



Result :

Type of solution	Colour changes on apple slices
None	
Sugar solution	
Lime juice	
Baking soda solution	
Salt solution	

Discussion :

Lime juice contains ascorbic acid or Vitamin C. Ascorbic acid will react with the oxygen before the oxygen reacts with the enzyme in the apple. Therefore, ascorbic acid will prevent the apple from browning until all the acid is used up.

Baking soda is an alkaline (high pH level). Thus, it contains higher amounts of oxygen. So, covering the apple with baking soda solution actually brought more oxygen to the surface of the apple, accelerating the browning.

Salt water prevented the oxidation of the apple slice because it surrounded the apple cells with a saltier environment than the inside of the cells.

Apples contain an enzyme called polyphenol oxidase (PPO). When we slice open an apple, the enzyme reacts with the oxygen in the air and enzymatic browning occurs.

Sugar solution stops oxygen in the air getting to the enzymes and prevents the browning.

1. The apple slices which exposed in the air and immersed in baking soda solution turned brown because

a) apple exposed in the air

b) apple immersed in baking soda solution

2. The apple slices which were immersed in sugar solution, lime juice and salt solution did not turn brown because

a) apple immersed in sugar solution

b) apple immersed in lime juice

c) apple immersed in salt solution

3. Rearrange the following solutions in ascending order of the best prevention of oxidation on apples.

 , ,

Conclusion

..... is best use to slow down the oxidation process on apples.