

# Respiration of cell

Level Elementary

## Concept

The respiration of cell is confirmed by using the yeast  
It is noticed that the nutrient is necessary in respiration of the cell.

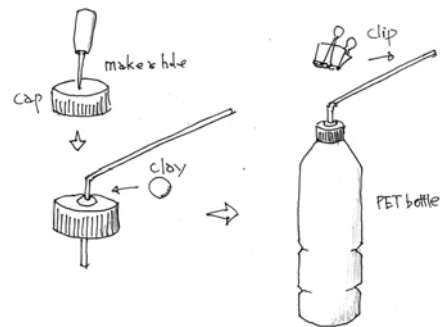


## Materials

PTE bottle (3), yeast, glucose, limewater, and straw

## Fabrication

- (1) Three PTE bottles are prepared.
- (2) A hole is made for the cap and you place a straw passing the hole.
- (3) Surroundings of the straw are shielded with clay.
- (4) Clasp the straw head with the clip.



## Working

At first, it should be confirmed that limewater changes into white by carbon dioxide of the exhalation.

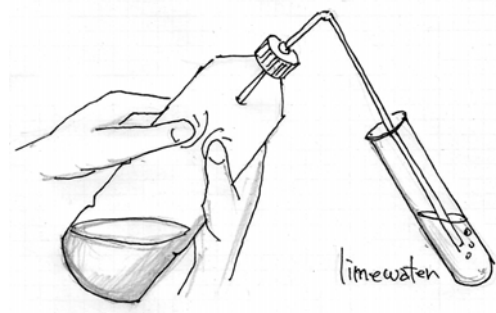
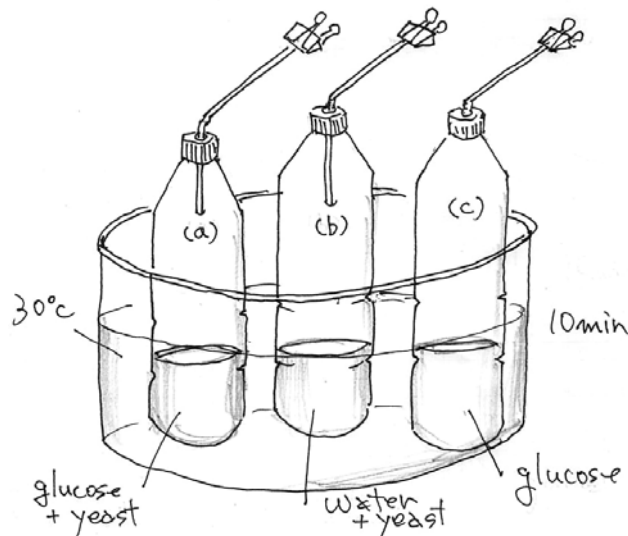
The glucose solution is made with the glucose powder 20g in the water of 200cm<sup>3</sup>.

Three PTE bottles are prepared. Respectively

- (a) Glucose solution 100cm<sup>3</sup> and yeast 5g are put in a PET bottle.
- (b) Water 100cm<sup>3</sup> and the yeast 5g are put in a PET bottle.
- (c) Glucose solution 100cm<sup>3</sup> is put in a PET bottle.

Three PTE bottles are put into the water of 30°C.

After ten minutes, air in each container will be pushed out in the limewater.



## Conclusion

The carbon dioxide is produced as the monad breathes, too.  
Think the reason why we prepare the bottle (b) and (c).