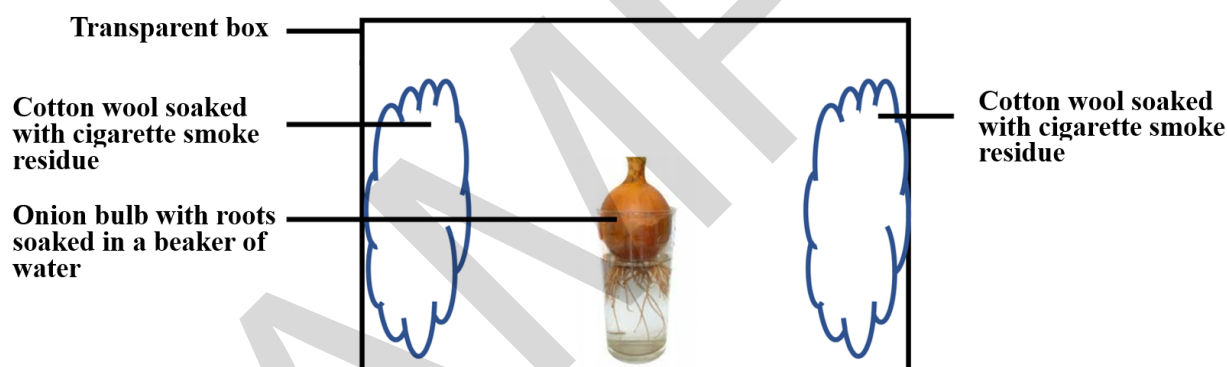


PolyU SCIENCE Young Talents Competition

Biology and Food Science - Sample Questions

1. Crop yields can be seen reduced in a hot and dry summer because
 - A) carbon dioxide release is reduced by the stomatal closing to prevent excessive water loss.
 - B) carbon dioxide release is increased by the stomatal closing to prevent excessive water loss.
 - C) carbon dioxide uptake is reduced by the stomatal closing to prevent excessive water loss.
 - D) oxygen uptake is reduced by the stomatal closing to prevent excessive water loss.
2. The diagram below shows a set-up used to study the effect of cigarette smoke residue on onion growth.



Which of the following can be the dependent variable in this investigation?

- A) The mitotic index of the root tips.
- B) The change in temperature of the setup.
- C) The rate of photosynthesis of the onion.
- D) The change in fresh mass of the onion.

3. Which of the following sub-cellular structures can be found in both prokaryotic and eukaryotic cells?
- A) cell wall
 - B) plasmid
 - C) rough endoplasmic reticulum
 - D) chloroplast
4. The sugar “sinks” in the roots because
- A) active transport of mineral ions into xylem cells in the root.
 - B) transportation of sugars in phloem from the leaves to the root cells.
 - C) absorption of water from the soil by the root cells.
 - D) of gravity pull on sugar molecules which accumulates sugar in the roots.

SAMPLE