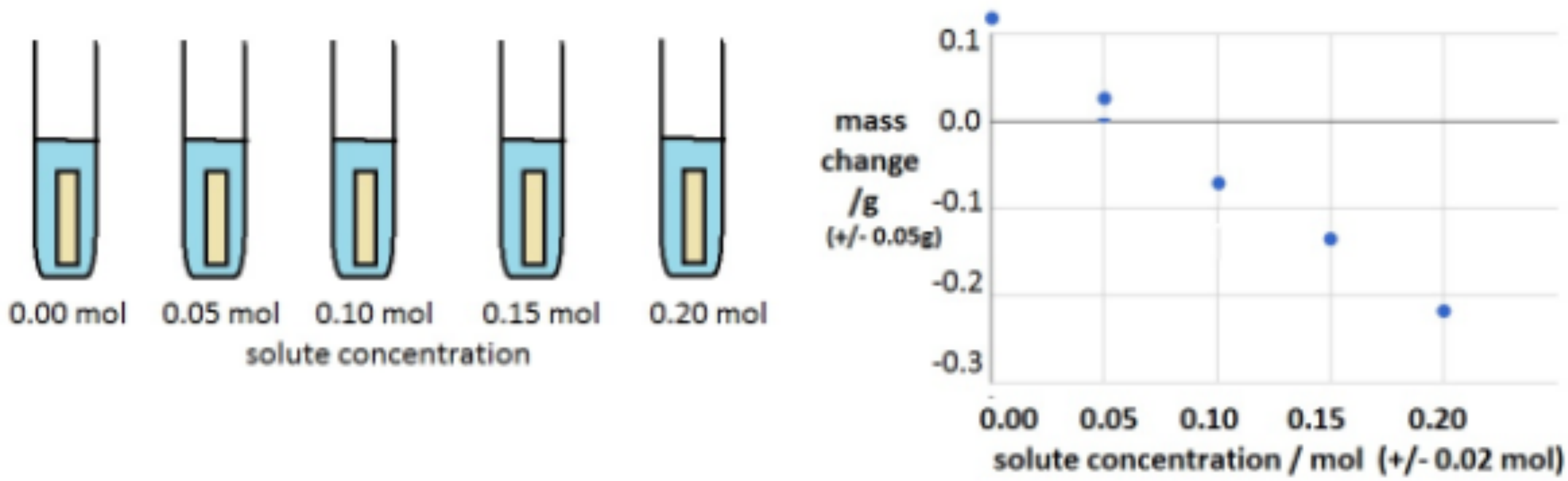
Jan 16th Team Tuesday

Practical 2 In a simple experiment five cylinders of potato were soaked in five solute concentrations as shown below.



1. Estimate the solute concentration of the cytoplasm of the potato cell cytoplasm. [1]
2. State the factors which must be controlled to make the experiment a reliable fair test. [2]
3. Explain what the figures +/- 0.05 g and +/- 0.02 mol indicate. [3]

1. 0.07 mol; range 0.06 to 0.08 mol [1]
2. [Max 2]
   - Temperature
   - Time for diffusion
   - Shape of potato cylinders
   - Type of potato
   - Skin present or not on potato
   - Time for solute to dissolve in solution
3. [3] +/- 0.05 g means that a reading of 0.1 g could be as little as 0.05 g or as much as 0.15 g due to uncertainty. The value is certain to be within this range, but we do not know the precise value.

   The same is true for concentration values with a +/- 0.02 mol variation.

   Since the uncertainties are quite smaller than the measured values, it can be inferred that the data is probably reliable.

Jan 17th Wise Wednesday

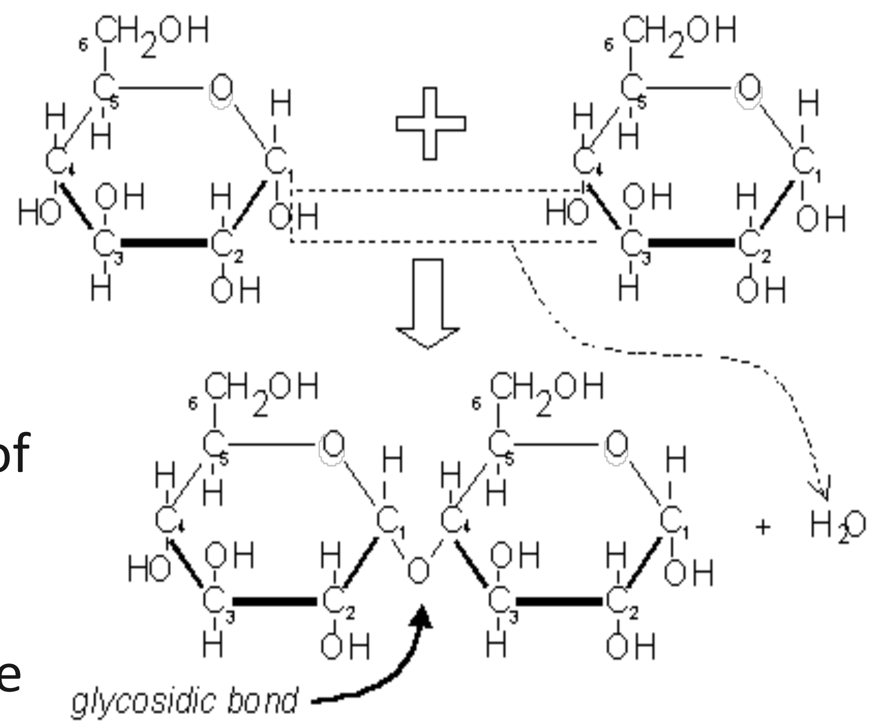
D3 List four functions of the human liver [5]

A. Nutrient storage / storage of glucose as glycogen
B. Removes bilirubin/ammonia/alcohol from the blood
C. Storage of iron
D. Storage of fat soluble vitamins
E. Produces cholesterol
F. Produces plasma proteins / albumin
G. Produces clotting factors
H. Red blood cell breakdown / recycling

Jan 18th Thinking Thursday

2.3.U1 Outline the production of a maltose by a condensation reaction between two glucose. [5]

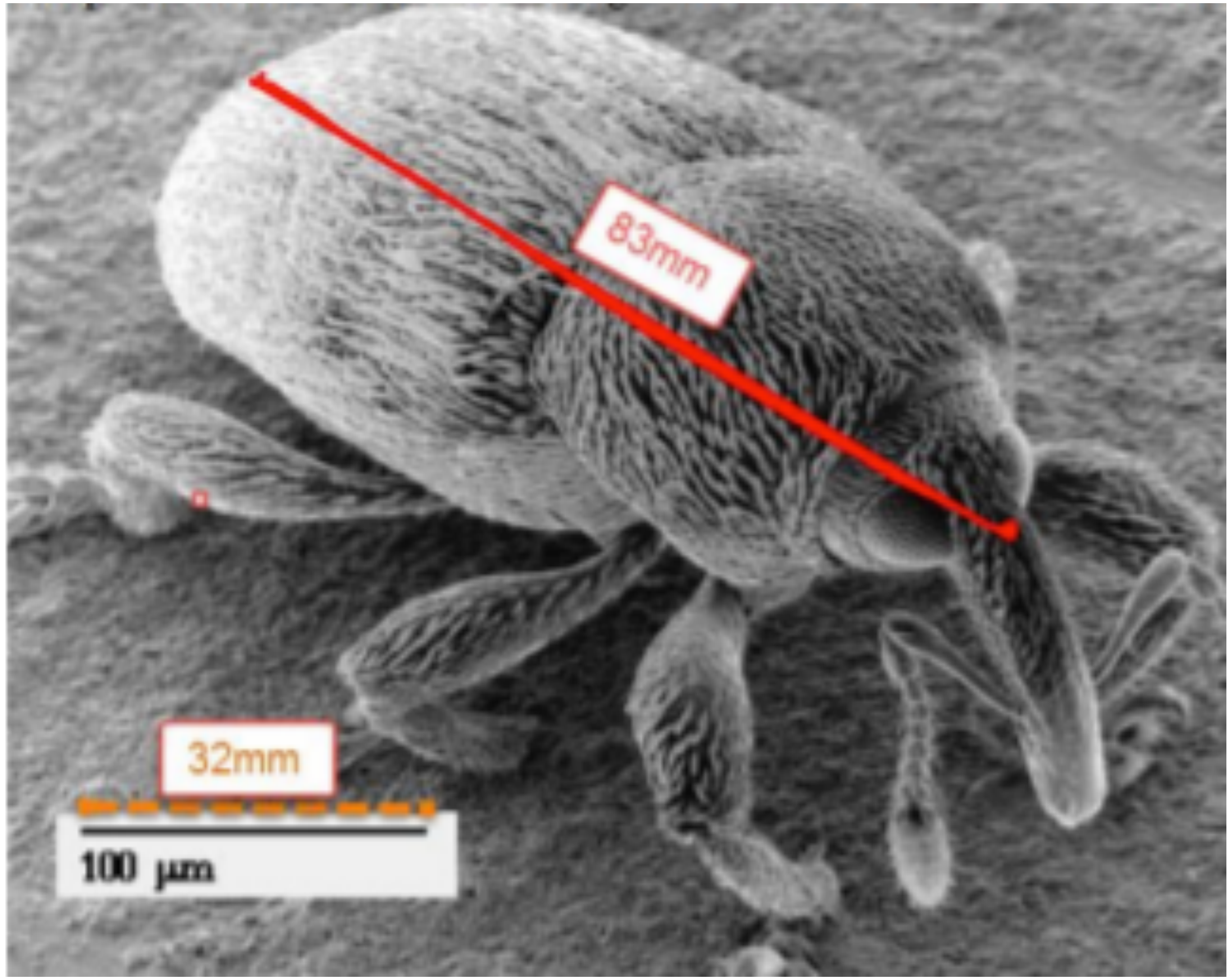
A. Condensation reactions combine molecules together
B. Glucose is a monosaccharide/ monomer;
C. Maltose is a disaccharide;
D. Hydroxyl group/ -OH of glucose reacts with hydroxyl group/ -OH of another;
E. Water / H_2O is eliminated;
F. Bond carbon 1 to carbon 4 (can be shown in diagram);
G. Correctly drawn diagram of glucose;
H. Correctly drawn diagram of maltose;



Jan 19th Figure Friday

1.1.S3
Calculate the magnification of this image.
Show your working.

[3]



100 µm = 0.1 mm
32 mm/0.1 mm
= 320 X life size

OR

32 mm = 32000 µm
32000 µm/100 µm
= 320 X life size