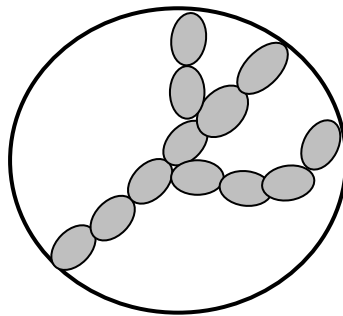


RISHIKUL SANATAN COLLEGE
Y13 BIOLOGY - 2021
TERM 1: COVID 19 EXTENDED HOLIDAY TASKSHEET 3

Day: 1

Activity: Practical Activity.

The diagram given below shows a filamentous alga viewed under a compound microscope. It is magnified 40x and the field of view diameter is 1.5mm (40x magnification).

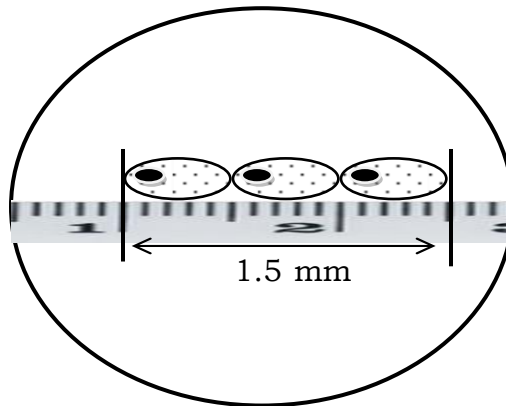


Estimate the size of one cell. Give your answer in microns.

Day: 2

Activity: Practical Activity.

The diagram below shows cheek cells next to a metric measuring device.
This is viewed under a compound microscope at a low power magnification.



If all the three cells are of equal size, calculate the length of **one** cell in microns (μm).

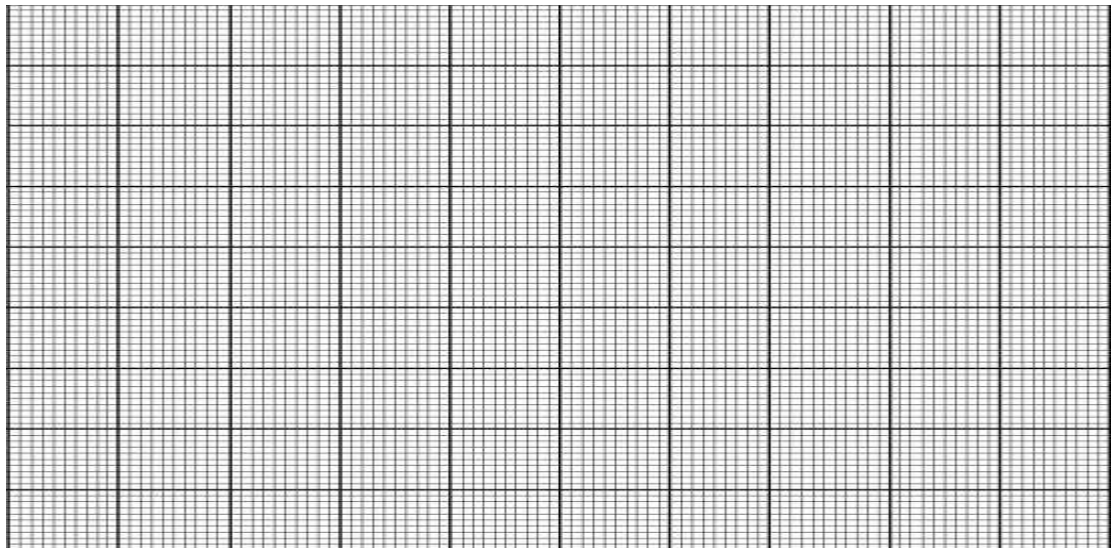
Day: 3

Activity: Practical Activity.

A farmer randomly picked 50 ripe fruits from a mango tree and recorded the weights as shown in the table below.

Weight Boundary (grams)	Midmark	Total Number of Mangoes
300 – 400	350	5
400 – 500	450	8
500 – 600	X	11
600 – 700	650	Y
700 – 800	750	7

- (i) Calculate the missing values for **X** and **Y** in the table above.
- (ii) Sketch the histogram of the results on the graph provided below.



- (iii) If the modal weight range of mangoes changed from 600 – 700 grams to 700 – 800 grams, briefly explain what this would denote.

Day: 4

Activity: Practical Activity.

A class of 35 students carried out an exercise to calculate the gene frequencies for two traits in their class.

Tongue Rollers	Non-Tongue Rollers	Ear Lobes Attached	Ear Lobes Not Attached
29	6	31	4

- (i) Calculate the frequency of the recessive non-tongue rolling allele.

- (ii) Suggest why the frequencies of the two recessive alleles would differ.

Day: 5

Activity: Practical Activity.

Sensitivity to low concentrations of the bitter chemical PTC (phenyl thiocarbamide) in humans is determined by a single autosomal gene. The gene has two alleles: **T** for tasters and **t** for non-tasters.

In a large population, 64% were found to be tasters. Calculate the frequency of the dominant allele (**T**).