

YEAR 12 BIOLOGY 2021

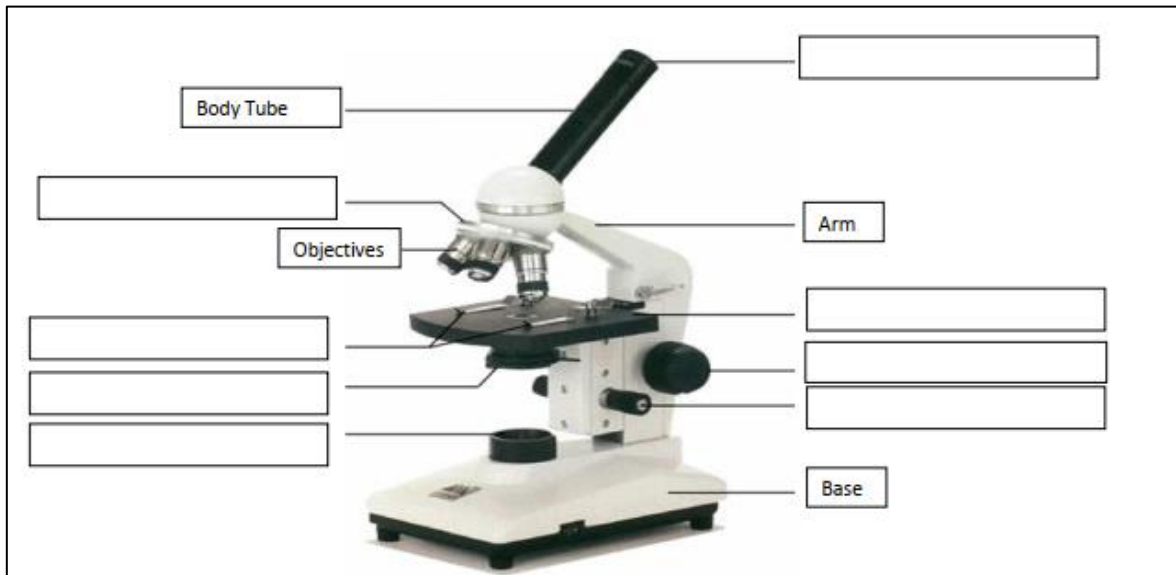
WORKSHEET 1

STRAND I: STRUCTURE AND LIFE PROCESSES

SUB-STRAND: CELL STRUCTURE AND FUNCTION

DAY 1

1. In the laboratory, onion cells are investigated using a microscope. Onion cells are difficult to see, so a dye is added to the onion cells. What is this dye called?
 - A. Iodine solution
 - B. Hydrochloric acid
 - C. Salt solution
 - D. Water
2. Label the parts of the microscope.

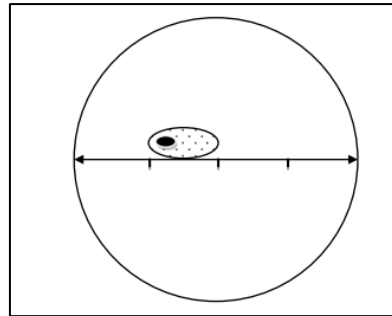


DAY 2

1. If the diameter of the field of view at 40x magnification is 4.5 mm, what would be the diameter of field of view at 400x magnification?
2. Explain the difference between magnification and resolution.

DAY 3

1. The diagram below shows the image of a specimen viewed at 40 x magnification. Calculate the length of the specimen in micrometers (μm). (Diameter of field of view = 4.5 mm)



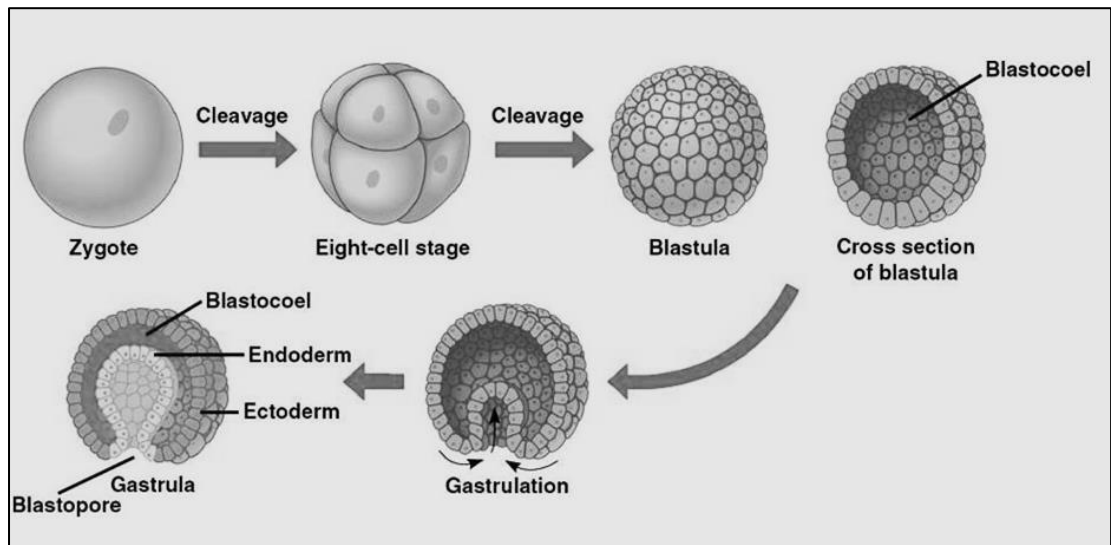
2. In one of your practical activities, you were asked to observe the letter 'e' at low power under the microscope. If the letter 'b' was used instead of 'e', draw the image that you would observe.

DAY 4

1. Most organelles in a eukaryotic cell are found in the
 - A. cell wall
 - B. cytoplasm
 - C. nucleus
 - D. capsule
2. A bacterial cell's DNA is found in its
 - A. capsule.
 - B. nucleoid region.
 - C. nucleus.
 - D. ribosomes
3. Which of the following structures are formed from the ectoderm?
 - A. Pancreatic cells
 - B. Skeletal muscle cells
 - C. Skin cells of the epidermis
 - D. Cardiac muscles of the heart

DAY 5

1. Study the diagram given below of embryonic development in animals and answer the questions that follow.



- (i) Explain how the blastopore is formed.
- (ii) Explain how cleavage in the gastrulation process differs from mitosis in cell division.
- (iii) State three changes that occurs during gastrulation.