

Learning parts and proper use of microscope, and the interception of images viewe...



**ASSIGN  
BUSTER**

Learning parts and proper use of microscope, and the interception of images viewed through a light microscope

Abstract:

A compound light microscope uses two sets of lenses, ocular and objective, and employs light as its source of illumination. Through careful observation, we identified the various parts of a light microscope we found that the light microscope Ocular lenses which give 10x magnification power, and objective lenses which consist of three objectives: scanning, low power, and high power objectives. Then we observed under different magnification powers a certain number of specimens such as, Letter " e", threads, and Hay infusion. The results were observed and recorded for the different specimens and it came out to be the higher the magnification the lesser the microscopic field.

Introduction:

One of the most important instruments in anatomy and physiology is the compound light microscope. The general principle of the microscopy is that the shorter the wavelength of light used in the instrument, the greater the resolution. In the light microscopy, the lenses are arranged so that the images of objects too small to be seen with the naked eye can become highly magnified, so the apparent size can be increased, and their minute detail can be revealed. In this lab we observed the parts of the light microscopy, we identified each part and learned its functions , we also examined a few specimens under different magnifications using different objective lenses, for each specimen we started using the scanning objective then the low-power objective ending with the high-power objective in order

to get higher magnification. We viewed the samples and made drawings of them Method:

We carefully carried the microscope from the cabinet to the desk by placing one hand around the arm and the other firmly under the base. Then using the coarse adjustment knob we rose the body tube to its highest fixed position. Then we placed the slide on the stage , Starting with the letter “ e” sample we started using the scanning objective to observe the sample and then made drawings of it, then we switched to the low-power objective, we used the fine adjustment knob to complete the focusing . After observing letter “ e” under low-power magnification we switched to the high-power objective while assuring that the illumination is at its max . Drawings were made for each of the samples under each different objectives. For the threads sample, the cheek cells and the hay infusion specimen, the previous steps were done the same.

For the thread slides : we got the same results as the letter “ e” under different magnifications . Under scanning objective:

Multiple threads were seen together

Figure (a)

under low-power objective:

- we saw more resolution and more details
- when we focused on the red thread the other two got blurry
- we were able to focus through depts. of the specimen Figure (b)

Under high-power objective:

The microscopic field decreased drastically and we were not able to see the different threads any more

<https://assignbuster.com/learning-parts-and-proper-use-of-microscope-and-the-interception-of-images-viewed-through-a-light-microscope-essay-sample/>

For the Hay infusion specimen:

Under scanning objective we saw the specimen swimming around the hay

We altered the light intensity to view organisms

We learned how to prepare a wet mount

Figure (c)

For the cheek cells :

After scrubbing inside the mouth to get a human cheek cells, we observed the cheek cells under different objectives, we also can used chemical dyes to enhance the vision of the cheek cells. Figure (d)

Discussion:

Using the light microscope we were able to observe the little details for each of the samples under different magnifications , we came out with that the higher the magnification the smaller the microscopic field gets, and as we increase resolution we can see more details in the specimens. What give the microscope its ability to go through the little details is its power microscopic lenses, for each light microscope it has two sets of lenses the ocular lenses which has 10x magnification power and the objective lenses which they can reach up to 40x magnification power, so whenever we view something under the light microscope we get magnification from both lenses , for example : under high-power objective we get magnification of total  $10 \times 40 = 400$  times bigger of the original sample . we also were able to know that under different depts of the specimen we are able to focus on certain part of them using the fine adjustment knob. In some cases not all sample could be seen under the microscope because some of them are colorless so we add chemical dyes to get a better vision. Conclusion :

<https://assignbuster.com/learning-parts-and-proper-use-of-microscope-and-the-interception-of-images-viewed-through-a-light-microscope-essay-sample/>

In this lab we learned the parts and the proper use of the light microscope, and we were able to view the interception of images through the microscope, and we learned the the concept of magnification. As the magnification increase the microscopic field decrease. I gained useful microscopy skills such as making wet mount slides, finding the proper magnification for viewing, and drawing microscope observations with all the proper labels. Amitrano, Robert & Tortora Gerard , Anatomy and phsisiology laboratory manuel 7th edition , 2007 brooks/cole , cengage learning . print.