***Microscope WebQuest***

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| What's all around us even though you can't see it with the naked eye? - The microscopic world.  In order to view the tiny wonders all around us, you need a microscope.  Various microscopes exist but we will focus on the most commonly used ones.    **Task and Procedure:**  Your mission is to:   1. Correctly identify the parts of a microscope. 2. Read and answer questions about the history of the microscope. 3. Review different types of microscopes. 4. Evaluate what magnification is and how it works. 5. Discover how to use the microscope properly. |

1. Go to [http://www.biologycorner.com/microquiz/index.html#](http://www.biologycorner.com/microquiz/index.html)

Label the parts of the microscope.

1. Go to <http://www.tutorvista.com/biology/microscope-parts-and-functions>

Write the function for each part labeled part

1. Go to <http://www.cas.muohio.edu/mbi-ws/microscopes/index.html>
   1. click on “**History of the Microscope**”

   List the 4 scientists responsible for the discovery or invention of the microscope.

* Father that helped create the first compound microscope

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* Son that took over the production of the first compound microscope

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* Viewed cork under the microscope and coined the word cell in 1665

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* Created the first simple microscope. First to describe bacteria & Protozoan’s.

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* 1. Click the back button. Go to the **Microscope Types** link

Complete the following chart:

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|  | **Compound** | **Stereoscope (Dissecting)** | **Scanning Electron** | **Transmission Electron** |
| **Description** |  |  |  |  |
| **Cost** |  |  |  |  |
| **Radiation Source** |  |  |  |  |
| **Specimen Mounting** |  |  |  |  |
| **Magnification Adjustment** |  |  |  |  |

* 1. Click the back button. Go to **Compound Microscope** and click on **Magnification** link
* How do you calculate the total magnification?
* What is the total magnification if the power of the objective lens is 100 times?
* What is the procedure to magnify an object and focus the image?
* At which power (4x, 10x, 40x) would you see the greatest detail?
* At which power (4x, 10x, 40x) would you see the largest amount of the sample?
* What would you notice about the image as you increase the magnification?
  1. Click the back button.  Go to **Resolution**.

Define the following:

* Magnification:
* Resolution:

* 1. Scroll to the bottom of the page.  Click on “**Using the Microscope**”.  Answer the questions.

* When you carry a microscope you have one hand under the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and the other hand on the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Which part of the microscope do you turn to raise the body tube?
* Which part of the microscope do you turn to place the low power objective in place?
* What is the name of the part of the microscope where you set the slide?
* What is the name of the part of the microscope that you use to hold the slide in place?
* Which part of the microscope do you turn to bring the object into focus?
* Which part of the microscope fine-tunes the image?

* 1. Click on **Compound Light Microscope** and go to **Activities**

Click on “**e**” lab. (You will complete this lab in class so please read through carefully)

* What happened to the letter “e” when it was observed under a microscope?
* What happened when the letter e was moved to the left?
* What would you do to determine the position of each colored thread?
* What is depth of field?