

Microscope Use

Today we are going to spend the period talking about your first grade 8 unit write-up.

Your projects in grade 8 will look a little different than they did in grade 7, as they will have an alternate purpose, meaning you are communicating your information differently than last year.

For our unit on cells you will be doing a project based on microscope work. However, it will not be to simply document your findings, as we did last year with our lab write-ups. This task will be written from the perspective of the microscope company, and your job is to create an advertisement to promote the use of a microscope in a grade 8 classroom.

Although you will be creating a media piece, the grading of the work will be specifically based on the science. So, as you progress through this project, be sure to reference the criteria frequently, so that you incorporate the necessary components.

Microscope Advertisement - Content

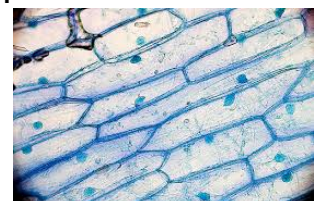
The format you choose for your advertisement will be up to you, but regardless of what you choose to produce, your advertisements needs to include the following components.

1. An explanation of what a microscope can do and, in general, the benefits of having microscopes in a grade 8 classroom.
 - > Keep in mind that you are trying to sell this microscope, so you need to get your potential customer interested.
 - > The wording should be persuasive in nature.
2. An indication of the key parts of the microscope.
 - > This can be a digital image with labels, or a verbal description, accompanied by video or images.
 - > You are not to use a pre-labelled image found online.



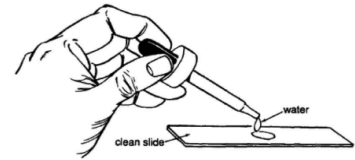
Microscope Advertisement - Content

3. A series of example observations that a student could produce by using the microscopes.
 - > Choose a minimum of 3 specific examples.
 - > You may include digital pictures or videos.
 - > You must include a minimum of one of your own hand drawn observations (can be scanned and inserted digitally.)
 - > Include detailed notes communicating any specific information the student can see from the example.
 - i.e., “When looking at onion skin, students will be able to see the nucleus of the cell, as well as see the organized way in which plant cells are arranged.”
 - > These are examples to show your customer, aesthetics is important.
 - > These examples are to be yours, not online images. You could, however, use online images as a comparison.



Microscope Advertisement - Content

4. A list of general tips or ideas for teachers who will be using microscopes in their classrooms.
 - > Your tips may include:
 - list of things to look at, i.e., what other samples could be used in the classroom – “In addition to the samples shown, your students may also enjoy looking at...”
 - things to consider when making samples or focusing the microscope, i.e., “When your students are focusing on their sample, be sure they...”
 - any other ideas of your own
 - > Your additional ideas would be things that a teacher may wish to explain to their students, things that relate to the microscopes (hint, maybe future careers).

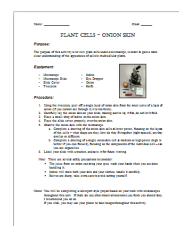


Microscope Advertisement - Content

5. As a bonus you may include a microscope lab worksheet, similar to the onion skin one that you were given in class.
 - > The amount of bonus, up to 5%, will be based on the quality of worksheet you produce.
 - > When you did your "Design an Experiment" activity in our first unit, you practised making a worksheet. Use what you learned there to help you in this section.
 - There will be no hypothesis, variables, control, constant conditions or conclusion for this activity sheet. All other sections should be represented.

Be sure to reference this content list multiple times as you produce your advertisement.

Note: All work is to be your own. If you hand in work that is not yours, or is copied from online, you will not receive a mark on that part of the rubric.



Microscope Advertisement - Formats

As indicated, the format of the advertisement is up to you. You may present the information in any way you feel will work. Here are some example formats that you may wish to consider:

- Poster
- Pamphlet
- Commercial
- Webpage
- Influencer Video
- Option of your choosing

What ever format you decide to create, please make sure you understand that the criteria is the same. You will be graded for the scientific content, as explained in this lesson.

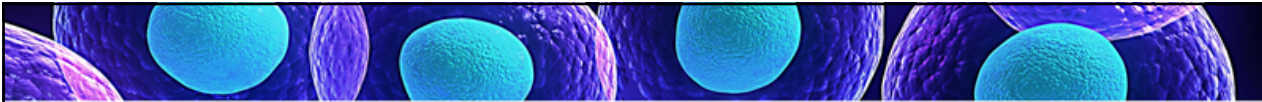
I will caution you to be sure to choose a format that you are capable of producing. I have knowledge of many digital applications, so I may be able to help with some things, but you will need to make sure you are proficient in whatever technology/software you choose to use in producing your work.

If your work involves using Google drive files (images, videos, etc) you must set the sharing privileges to "anyone with link."

Microscope Advertisement - Grading

The advertisement you produce will be assessed using the rubric below. We will go through this rubric now, but I also encourage you to review it multiple times as you produce your work.

Criteria	Level			
	1	2	3	4
Explanation (What is it for?)	Explanation relates to the use of, and lists a couple key components of, a microscope.	Explanation explains the main use of, and a few key components of, a microscope.	Explanation accurately explains the use of, and key components of, a microscope.	Level 3 Plus: Explanation is detailed and very clearly indicates the benefits to the microscope in the grade 8 classroom.
Examples (Description and Images)	Examples are present, but are brief or lacking description, or only one example is covered. Multiple visuals are present.	Multiple examples are described with some information, or one is described appropriately. Visuals are somewhat clear and most requirements are met.	Multiple examples are described appropriately. Visuals are clear and all requirements are met (3 examples, 1 hand drawn image).	Level 3 Plus: Example descriptions are in detail with multiple points and images are extremely well organized and aesthetically pleasing.
Tips/Ideas (Provide Detailed Information)	A couple tips or ideas are addressed, with points on topic, brief points, or one tip/ idea is addressed clearly.	A couple tips or ideas are addressed, mostly accurately, with mostly clear explanations.	Multiple (3 or more) tips or ideas are accurately addressed, with clear explanation.	Level 3 Plus: Tips and Ideas have very clear explanations and they relate microscope use to world outside the classroom.



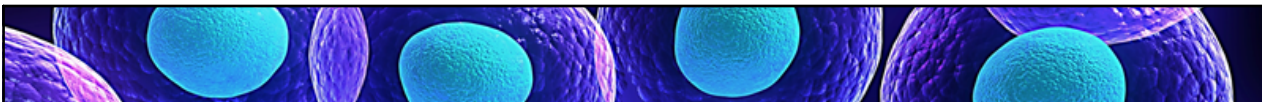
Microscope Advertisement

Your microscope advertisement will be due in approximately two weeks after our creek water observations:

Ideally any images or videos you use in your advertisement are ones you have taken/made (online images may be used as reference/comparison). Please note that I will be in for my regular scheduled breaks, and that you are welcome to use these times to take pictures/record videos for your advertisement.

Any of the materials I share with you during extra sessions may be used as part of your advertisement.

You may use any time remaining in class to brainstorm ideas for your microscope advertisement.



Microscope Advertisement

Here are some example projects that were done in previous years. These will not be posted online, but if you wish to view them again you may come in at breaks to see them.

Example Observations

Algae (400x)

There are 2 different looking strands intersecting each other near the bottom left, one being a turquoise blue, and the other is black. In each strand, multiple large dots can be seen in the center of groups, border of the strands is barely seen, because of how thin these are. Strands seem to be made up of multiple parts, joined together to make a single line. Inside each strand there are large dots in the center of the strands. It can be assumed that these are nuclei, or are contained in chromosomes. All large dots are different sizes, and consist of different color shades. The strand going upwards seems to be deep blue, and the dots in the middle have all different shades of blue. In blue strand it looks as if it contains a nucleus/ chromosome clump, meaning there are 6

Microscopes

What does a microscope do?

A microscope gives you the ability to look at small objects, usually objects too small to be seen by the naked eye. A scientist might view things like bacteria, insects, finger prints, jewelry, etc. However, in grade 8, showing your students creek cells, onion cells, etc (more on Grade 8 Examples) would still be very effective in teaching about cells and microscopes.

Why should you use microscopes in your grade 8 classroom?

Zayn Brar & Co. Observations

Microscope Pictures

When using a microscope, students will be able to identify cell patterns. They will also be able to find parts of a