

Domains & Kingdoms: Taxonomy of Cells

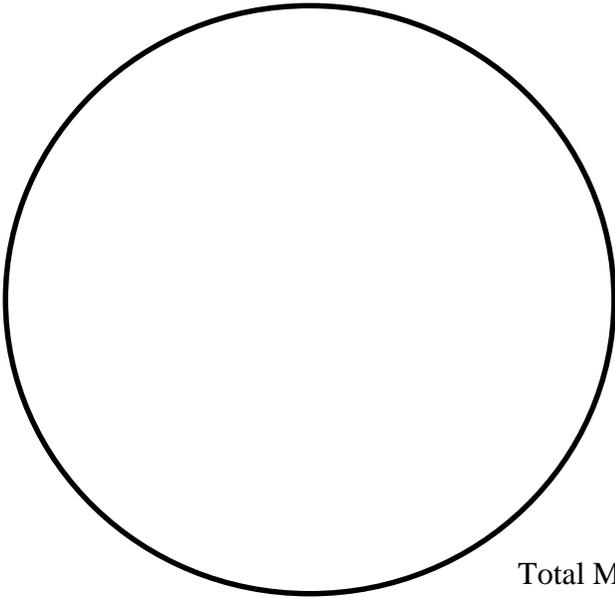
Microscopes allow us to look closely at cells. There are many different types of organisms: three Domains comprised of Bacteria, Eukarya, and Archeae; and 4 Kingdoms of Eukarya: Plantae, Animalia, Fungi, and Protista. Each of the Domains has characteristic cell types, which you have learned about in Biology class. Today, we are going to look at cells from Bacteria, Protists, Fungi, Plants, and Animals and find the characteristics of their cells. We'll use what we learn to identify an unknown or mystery slide.

What we will do today:

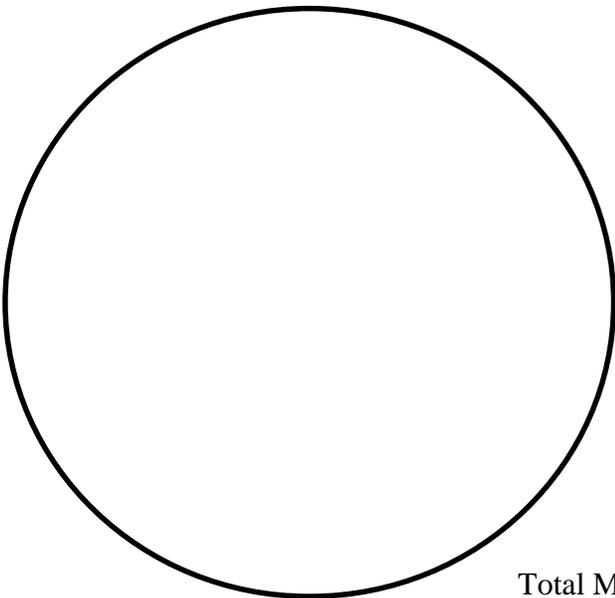
1. Your instructor will give your group a slide or slides of an unknown, live tissue or cells. Each group will have a different sample. Your job is to examine the tissue, draw and label (if possible) what you see and take detailed notes. Pay especial attention to the characteristics of the cells that you see.
2. Compare your sample to prepared slides of tissues and cells from different types of organisms. Carefully draw and label cells from each of these types of organisms and note any characteristics that you notice.
3. Determine what type of organism was the source of your tissue or cells and explain how you came to this conclusion.
4. If you cannot determine the type of organism that was the source of your tissue or cells, why not? What would you need to do to make this determination?
5. You may do this in whatever order you prefer. Some like to look at the unknown tissue or cells first, then at the different cell types. Others prefer to look at each cell type first and then at the unknown.
6. At the end, you should have a detailed description of each type of cell you examined, including your own unknown sample. Compare and contrast the cells types that you saw in your lab report section.
7. We will share what we find with each other, so be sure to take good notes.

What type of organism is this?

1. Examine the “unknown” tissue or cells given to you by your instructor. Draw what you see at 100x and 400x or 1000x below. **Label at least three structures** and describe what you see in the space beside your drawings.



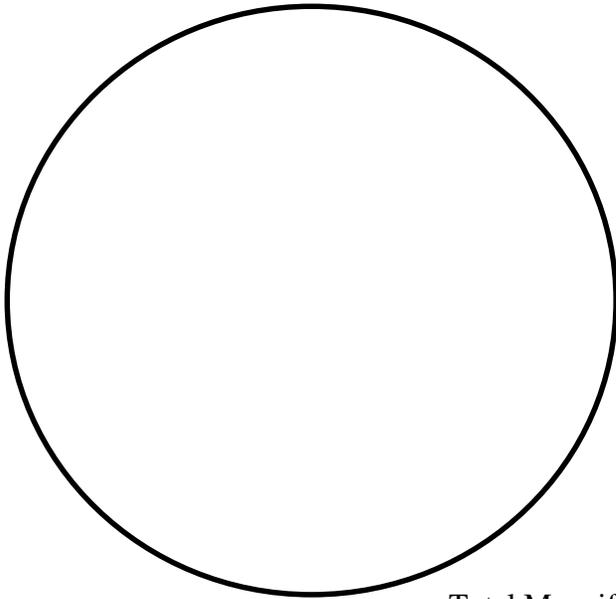
Total Magnification: _____x



Total Magnification: _____x

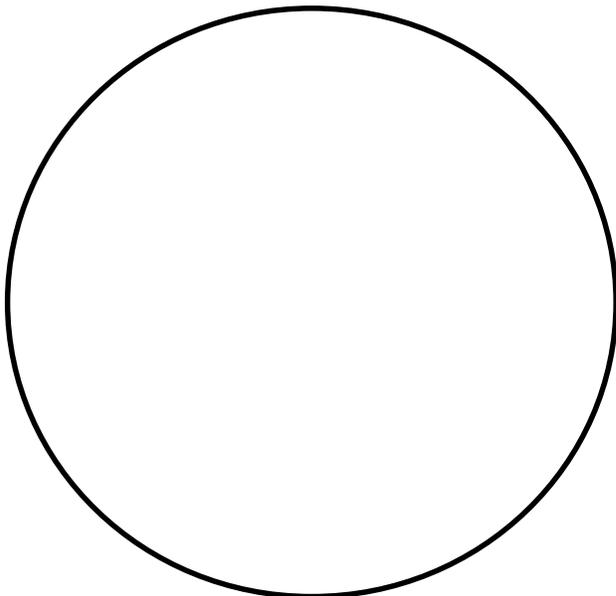
2. Draw and label cells/tissues from each of types of organisms represented by the prepared slides. Choose and record the magnification needed to determine the characteristics of this cell type. Your drawings should be done at a high enough total magnification to see the details of a single cell, usually 100x or higher. Describe what you see in the space provided.

a. Which type of organism? _____



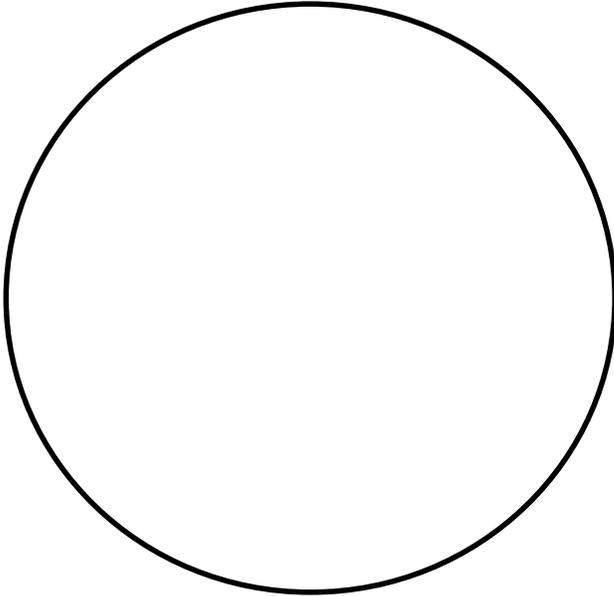
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b. Which type of organism? _____



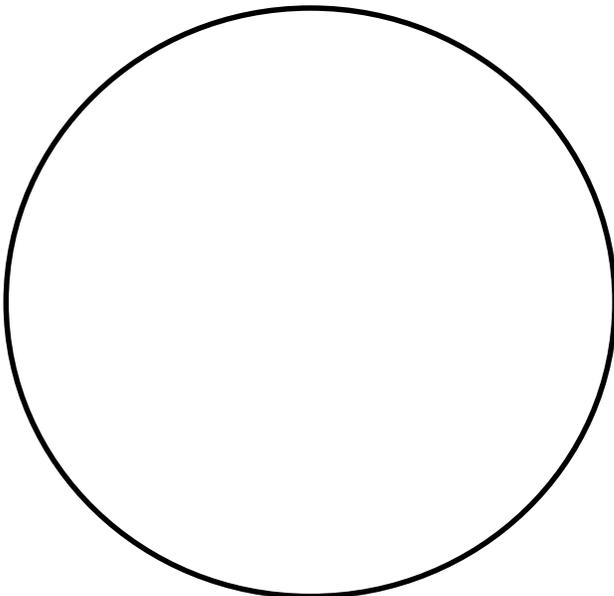
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c. Which type of organism? _____



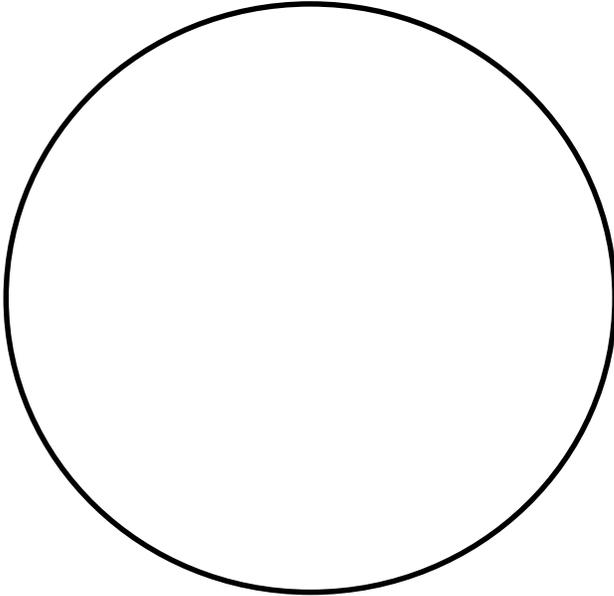
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d. Which type of organism? _____



Total Magnification: _____x

e. Which type of organism? _____



Total Magnification: _____x

3. What type of organism is your unknown? Using what you learned about the cellular characteristics of each type of organism, give the evidence for how you know this. If you cannot determine the source of your unknown, explain why not and describe what you would need to do to make this determination.

