**CELL THEORY, MICROSCOPES, AND MICROORGANISMS TEST STUDY GUIDE**

**CELL THEORY**

What are the three parts of cell theory?

Who are the 5 main scientists we discussed and what were their contributions?

**MICROSCOPES**

Know the microscope parts and functions (do not need to write anything here)

How do you calculate the total magnification of a compound microscope?

When using the high power objective, only the \_\_\_\_\_\_\_\_\_ knob should be used

What type of microscope is used in most schools?

What is resolution?

What is magnification?

**MICROORGANISMS**

Microorganisms are also knows as \_\_\_\_\_\_\_\_\_\_\_\_\_

The study of microorgasnisms is called \_\_\_\_\_\_\_\_\_\_

What does unicellular mean?

What does acellular mean?

What is the function of the nucleus?

What is the cytoplasm?

What is the function of the cell membrane?

What is the difference between prokaryotic and eukaryotic cells?

Where do microorganisms live?

What is the difference between animal-like and plant-like protists (use the works autotrophs and heterotrophs to explain)

Are bacteria unicellular or multicellular?

Do bacteria have a nucleus?

Do protists have a nucleus?

What is the function of a food vacuole?

What is the function of a contractile vacuole?

**Amoebas**

Is the amoeba an animal-like or plant-like protest? Explain.

What is phagocytosis?

What structure does the amoeba use to move? Briefly explain how this structure works.

How does the amoeba reproduce?

**Euglena**

Is the euglena an animal-like or plant-like protest? Explain.

What two structures do euglenas have that help them produce their own food by photosynthesis? Briefly explain the function of these two structures.

What structure does the amoeba use to move? Briefly explain how this structure works.

How does the euglena reproduce?

**Paramecium**

Is the paramecium an animal-like or plant-like protest? Explain.

What structure does the paramecium use to move? Briefly explain how this structure works.

Explain how paramecium consumes food all the way until the waste is released.

Explain the function of the nuclei (both the macronucleus and micronucleus) in a paramecium

How does the paramecium reproduce? What is conjugation?

**Volvox**

Describe how individual volvox calls work together to make sure the colony has food.

What structure does the volvox use to move? (How many does each cell have?) Briefly explain how this structure works.

Is the volvox an animal-like or plant-like protest? Explain.

What two structures do volvox have that help them produce their own food by photosynthesis? Briefly explain the function of these two structures.

How does the volvox reproduce?