

Grade 8 Science Cells **The Organization of Cells**

Name: _____ Class: _____ Date: _____

Scientists love to organize and categorize things. In biology, this is definitely the case. Biologists love naming all things based on the structures and habits as well as levels. They do this with cells too. On a basic level, they organize all life in different ways.

One cell – The basis building block of life. Each cell can survive on its own, but many cells are specialized to perform a specific function in an organism.

Tissue – This is a collection of similar cells that have a specific function in a larger organism.

Organ – A collection of tissues that make up an organ that serves a specific function in an organism – think of lungs, liver, kidneys or the heart. Without these organs, the organism cannot function.

Organ Systems – A group of connected organs that perform a function that is needed for the survival of an organism. Think of the digestive system that has organs such as glands, stomach, intestines and bowels. Another example is the circulatory system that has lungs, heart, arteries and veins that bring needed oxygen to all areas of the body and gets rid on poisonous carbon dioxide.

Organism – Larger organisms have a collection of systems that allow that organism to function and to remain healthy.

SUMMARY

All life is based on the cell. Cells can exist as an entire organism in one cell (but not a one-celled boy). We saw some under the microscope from the swamp water. In larger organisms that are multi-cellular like humans, there can be 100 trillion cells that are working together. They are specialized into tissues, organs, organ systems and then the entire organism. If the cells are healthy, the entire organism will be healthy. It all starts with cellular health.