

1.1 Discovering Cells

(as students share their notes, record the page number)

What are cells? (pg 4 -5)

- cells form part of organisms and carry out all of its functions
- Cells = basic unit of structure and function of living things
- Structure = way that cells are put together
- Functions = processes that help a cell live, grow, and reproduce
- Single cell has same needs as entire organism
- Structure of a cell fits its function

What is the cell theory? (pg 6)

- 1590 = first microscope invented
- Microscope = instrument that makes small objects look larger
- Cell theory = explanation between cells and living things
- Hooke = invented his own microscope, first one to discover cells (“small rooms”), saw dead tree cells from a cork
- Leeuwenhoek = first to see living cells through own microscopes

What the cell theory says? (pg 7)

- The cell theory states:
 - All living things are composed of cells
 - Cells are the basic unit of structure and function of living things
 - All cells come from other cells
- Schleiden = found that all plants are made of cells
- Schwann = found that all animals are made of cells
- Virchow = all cells come from other cells

How do microscopes work? (pg 8)

- Microscopes = focus light through lenses to produce a magnified image
- Magnification = things appear larger than they are
- Magnifying glass has convex lens – lens with a center that is thicker than its edge.

Compound Microscopes (pg 9)

- Compound microscope magnifies more than a single lens
- Compound microscope uses two lenses
- Total magnification = magnification of the eye piece lens multiplied by magnification of nose piece lens

Measuring Microscopic Objects and Resolution (pg 10)

- Two properties of microscopes are: magnification and resolution
- Resolution = degree to which two separate structures that are close together can be distinguished
- Resolution improves as magnification increases