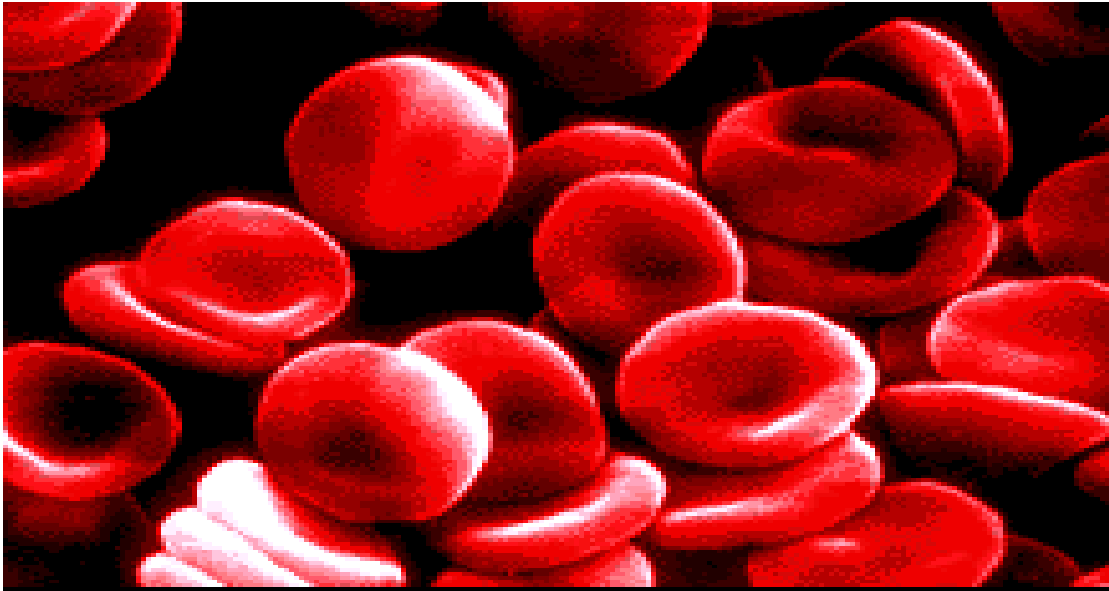


# THE CELL THEORY

## **DIRECTIONS: COPY THE INFORMATION IN RED.**



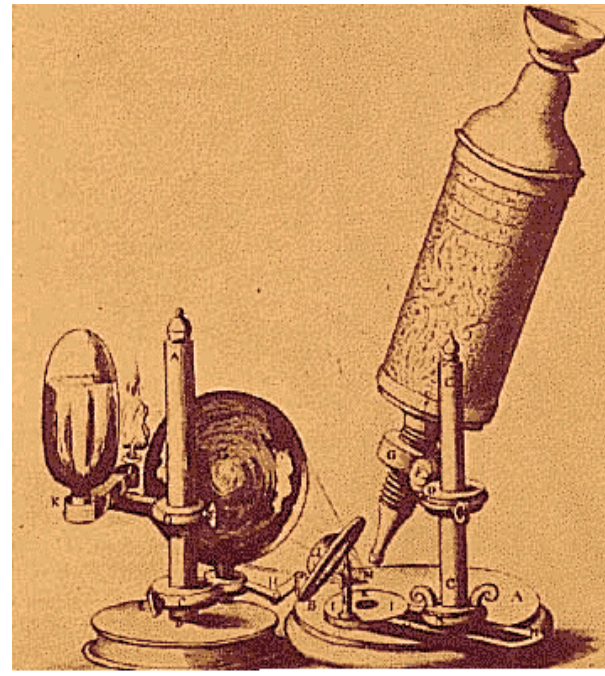
# THE CELL THEORY

1. All organisms are composed of one or more cells. (Schleiden & Schwann)(1838-39)
2. The cell is the basic unit of life in all living things. (Schleiden & Schwann)(1838-39)
3. All cells are produced by the division of preexisting cells. (Virchow)(1858)



# DISCOVERY OF CELLS

- 1665- English Scientist, **Robert Hooke**, discovered **cells while looking at a thin slice of cork.**
- He described the cells as tiny boxes or a honeycomb
- He thought that cells only existed in plants and fungi



# ANTON VAN LEUWENHOEK

- 1673- Used a handmade microscope to observe pond scum & discovered single-celled organisms
- He called them “animalcules”
  
- He also observed blood cells from fish, birds, frogs, dogs, and humans
- Therefore, it was known that cells are found in animals as well as plants



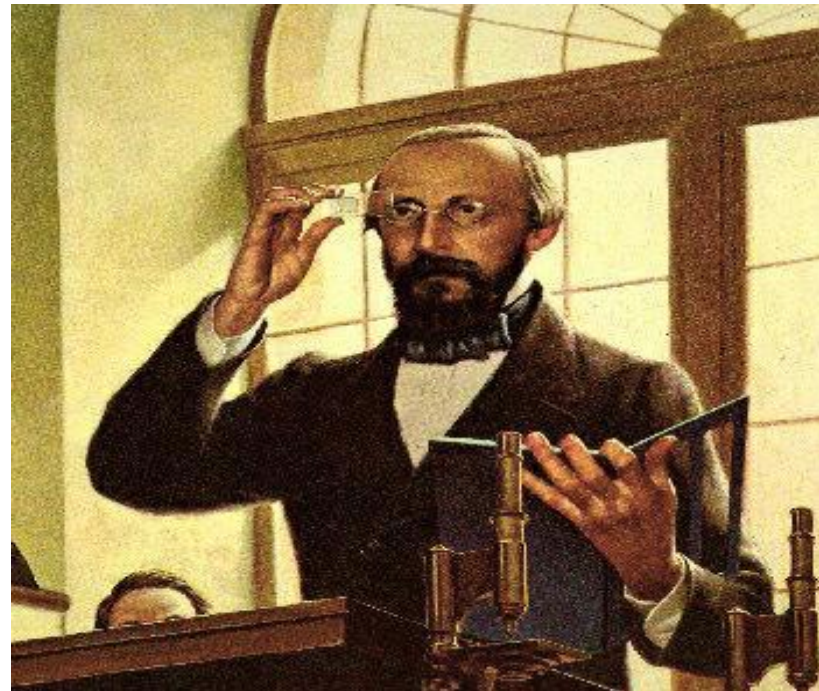
# DEVELOPMENT OF CELL THEORY

- ◉ 1838- German Botanist, **Matthias Schleiden**, concluded that all plant parts are made of cells
- ◉ 1839- German physiologist, **Theodor Schwann**, who was a close friend of Schleiden, stated that all animal tissues are composed of cells.



# DEVELOPMENT OF CELL THEORY

- 1858- **Rudolf Virchow**, German physician, after extensive study of cellular pathology, **concluded that cells must arise from preexisting cells.**



# HOW HAS THE CELL THEORY BEEN USED?

- The basic discovered truths about cells, listed in the Cell Theory, are the basis for things such as:
  - Disease/Health/Medical Research and Cures(AIDS, Cancer, Vaccines, Cloning, Stem Cell Research, etc.)

# ORGANIC COMPOUNDS

Most organic molecules are made up of carbon, hydrogen or oxygen.

Some examples of organic molecules include:

1. Carbohydrates - Carbohydrates consist only of carbon, hydrogen, and oxygen. They include starches and sugars and play an important role in our daily lives.
2. **Lipids** - Lipids include fats and waxes.
3. **Proteins** - Proteins play an important role in nearly every process that takes place in cells.
4. **Nucleic Acids** - Nucleic acids make up long chains of components such as DNA and RNA. DNA carries information such as genes for protein molecules to use.