

Chapter One: The World of Life Science

Section Four: Tools, Measurement, and Safety

Technology: the application of science for practical purposes

- Ex. Computer...first one was built in 1946

Compound light microscope: an instrument that magnifies small objects so that they can be seen easily

- Three main parts
 - A tube with two or more lenses
 - A stage
 - A light

Electron microscopes: a microscope that focuses a beam of electrons to magnify objects

- 2 types of electrons microscopes
 - The transmission electron microscope (TEM)
 - Produces flat images
 - The scanning electron microscope (SEM)
 - Produces three-dimensional images

International System of Units (also called SI)

- Global measurement system used by many countries
- Based on the number 10

Length: the SI unit for length is the meter (m)

Area: a measure of how much surface an object has

- Area = length x width
- Area is stated in square units (such as m² or cm²)

Volume: a measure of the size of something in three-dimensional space

- Volume = length x width x height
- Described in liters (L) for liquids or cubic units (m^3 or cm^3) for solids

Mass: a measure of the amount of matter in an object

- The basic unit for mass is the kilogram (kg)

Temperature: a measure of how hot or cold something is

- The basic unit for temperature is the Kelvin (K)
- In this textbook, we will use degrees Celsius ($^{\circ}C$)

Safety Symbols

