

Study Guide- Cells and Systems Quiz 1

Part 1 Characteristics of Living Things

In order to be considered living, what characteristics does a living thing have to have?

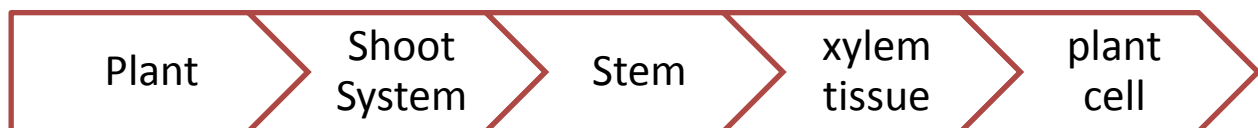
- able to reproduce
- has cell(s)
- must respond to environment
- must grow and develop
- must excrete wastes
- must obtain and use energy

Is a car alive

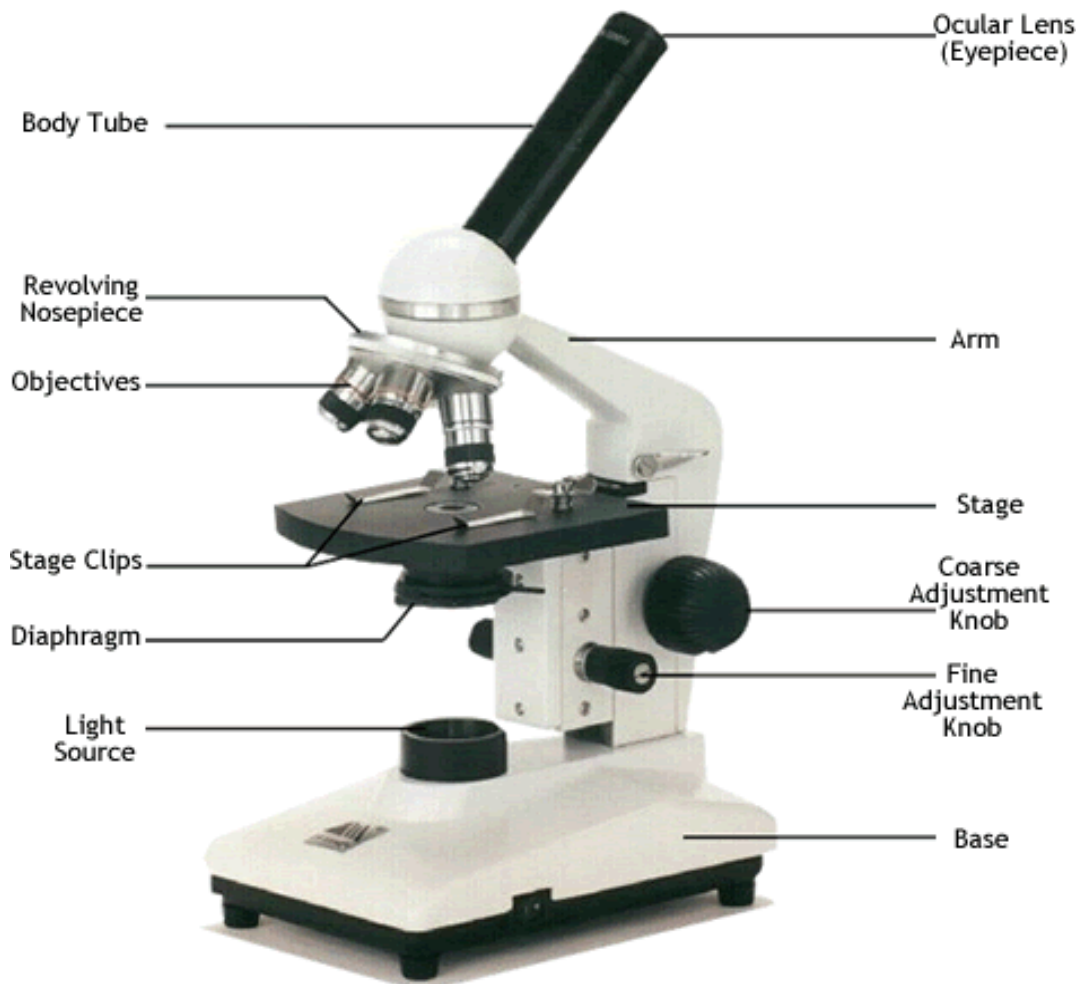
able to reproduce	has cell(s)	must respond to environment	must grow and develop	must excrete wastes	must obtain and use energy
✓	x	✓	x	✓	✓

A living organism must have all 6 characteristics or it is non-living.

Part 2 Organization in Living Things



Part 3 The Microscope



<i>Structure</i>	<i>Function</i>
Ocular lens	Piece you look through; usually 10X
Body Tube	Connects the ocular lens to the body of the microscope
Revolving nosepiece	Holds the objective lenses
Arm	Used to carry the microscope
Objective lenses	Provide magnification- 4X, 10X, 100X
Stage	Place to put the microscope slide
Stage clips	Hold the microscope slide in place
Diaphragm	Controls the amount of light reaching the slide
Light source	Provides illumination to the slide
Coarse Adjustment Knob	Adjusts the focus on low power (will move the slide a lot)
Fine adjustment knob	Adjusts the focus on medium or high power (will move it just a little)
Base	Provides support

To find magnification

ocular x objective = total magnification

example: $10X \times 40X = 400X$

How to make a wet mount



Part 4 The Cell

Cell Theory

- all living things are composed of one or more cells
- cells are the basic unit of structure and function in all organisms
- cells come from existing cells

Animal Cells and Plant Cells

*Study your diagrams and charts on the structure and function of the cell organelles.

The difference between plant and animal cells.

PLANT CELLS

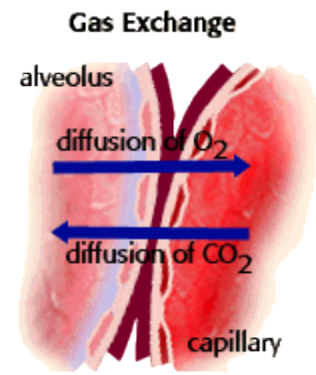
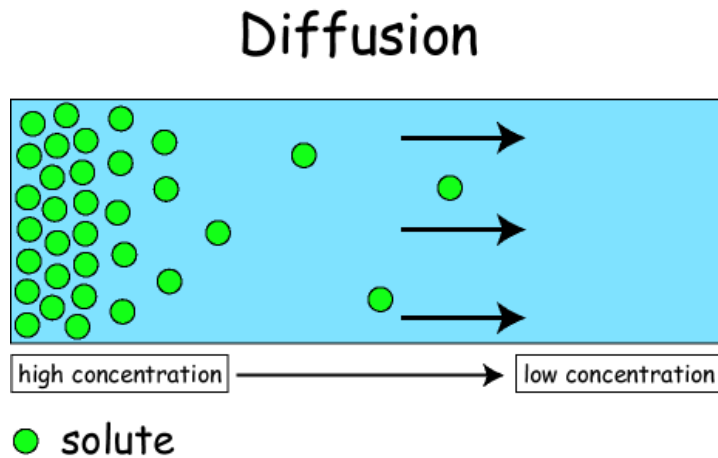
Large with definite cell wall
Large vacuoles
Chloroplasts present
squares shape

ANIMAL CELLS

Smaller, no cell wall
Smaller vacuole
No chloroplasts
Rounder shape

Transport in the Cell

Diffusion- movement of particles from an area of high concentration to lower concentration.



Example of diffusion in our body.

Osmosis- diffusion of water across a semi permeable membrane.

