Calculating the Field of View on Other Powers

After you have determined the field of view for low power, use the equation below to mathematically calculate the field of view on higher powers.

$\frac{40}{400} = \frac{x}{6000}$ = 600 µm

$\frac{\text{total magnification on low power}}{\text{total magnification on other power}} = \frac{\text{field of view on other power}}{\text{field of view on low power}}$

Example: If at 40x on low power, the field of view is 2000 µm, calculate the field of view under 100x magnification.

$\frac{40}{100} = \frac{(x)}{(2000\mu m)}$

$\frac{(40)(2000\mu m)}{100} = \frac{100x}{100}$

800 µm = x

$\frac{40}{100} = \frac{x}{2000}$

$100x = (40)(2000)$

$x = \frac{(40)(2000)}{100}$

$x = 800\ \mu m$

* Practice Sheet *

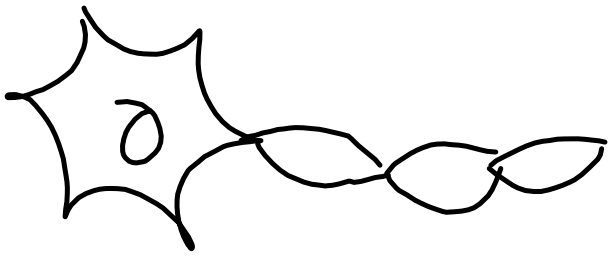
Cells

(Page 172)

Cells come in a variety of shapes and sizes.

Typical cells range from 5 to 50 μm.

NOTE: mycoplasma bacteria -> 0.2 μm in diamter
giant amoeba -> 1000 μm in diameter



Two Characteristics of All Cells

All cells have two characteristics in common:

1. they are surrounded by a barrier called a cell membrane

2. at some point in their lives, they contain the molecule that carries biological information - DNA

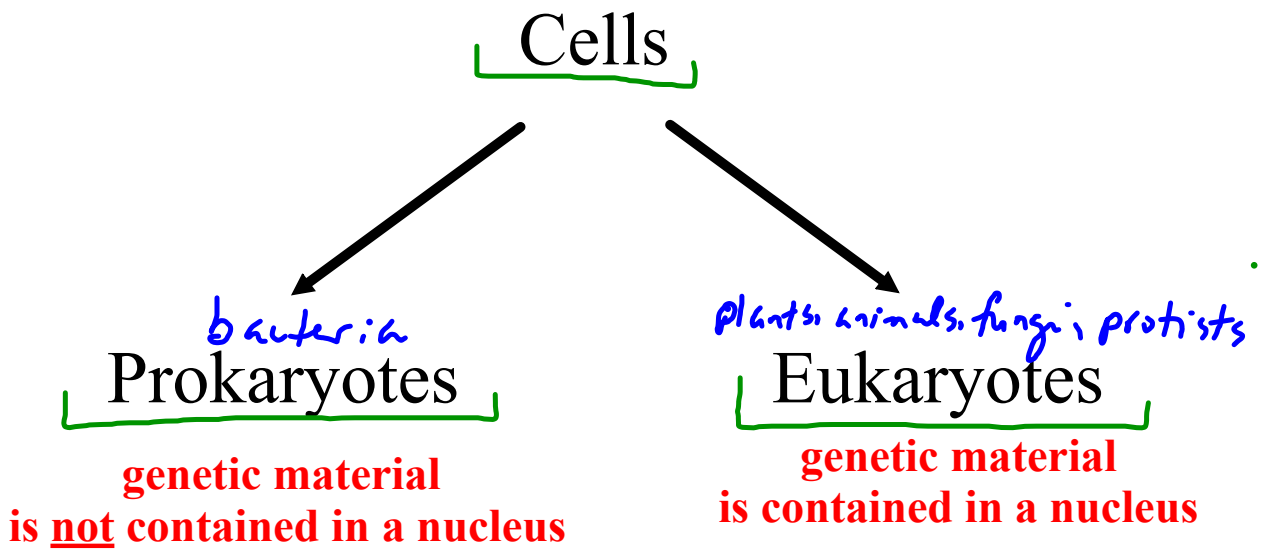
DNA - deoxyribonucleic acid

(nucleic acid that contains the sugar deoxyribose)

Two Broad Categories of Cells

Cells are classified depending on whether or not they have a nucleus.

A nucleus (plural: nuclei) is a large membrane-enclosed structure that contains the cell's genetic material or DNA. The nucleus controls many of the cells activities.



Greek: *karyon* -> kernal or nucleus
eu -> true
pro -> before

Two_Types_of_Cells__Prokaryotic_and_Eukaryotic.asf

Prokaryotes

Prokaryotic cells have genetic material that is not contained in a nucleus.

- generally smaller and less complicated than eukaryotes

- some may contain internal membranes

- they grow, reproduce, respond to the environment

- some glide along surfaces or swim through liquids

Bacteria are prokaryotes.

Attachments

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Bacteria.asf