CELLS AND CELL THEORY

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Ontogeny

Recapitulates

Phylogeny

Developmental origin

Revisits

Evolutionary context

DICHOTOMOUS KEYS

Classify by characteristic.

Group organisms.

Establish relationships.

Take 7-10 minutes to work individually on the free-form key you have in front of you.

3 minutes to go over it. Hand in for eval afterward.

PROKES VERSUS EUKS

Prokaryote

Before the nucleus/unicellular

(no defined nucleus)

Eukaryote

True nucleus/unicellular and multicellular

(one or more cells with organelles)

CELL THEORY (AUD 70, TOWLE 79)

Every living thing is made of one or more cells.

Smallest living organisms are single cells and cells are the functional units of multicellular organisms.

All cells come from preexisting cells.

CELL BIOLOGISTS

Schleiden

German botanist: plant cells

Schwann

German physiologist: animal cells

Virchow

German pathologist: cellular reproduction

Hooke

English naturalist: named cells

Leeuwenhoek

Dutch naturalist/microbiologist: best compound microscope (1st was Janssen), saw one celled organisms

ENDOSYMBIONT HYPOTHESIS

Powerhouse organelles believed to have emerged from bacteria.

This applies to mitochondria and chloroplasts based on their characteristics.

Eubacteria and archaebacteria unite to form eukarya.

PROKARYOTE AND EUKARYOTE CHECKLIST

	prokaryote	eukaryote an	eukaryote plant
Nucleus			
Membrane bound organelles			
Cell wall			
Ribosomes			
Mitochondria			
Chloroplasts			
Plasma membrane