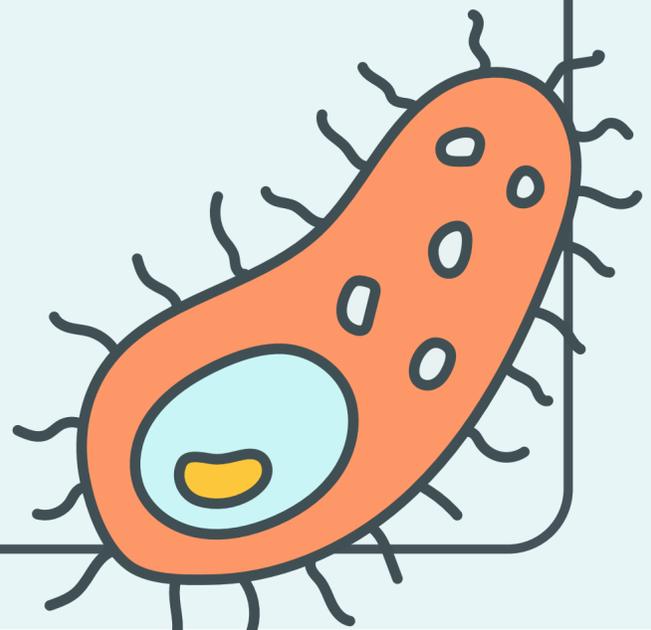
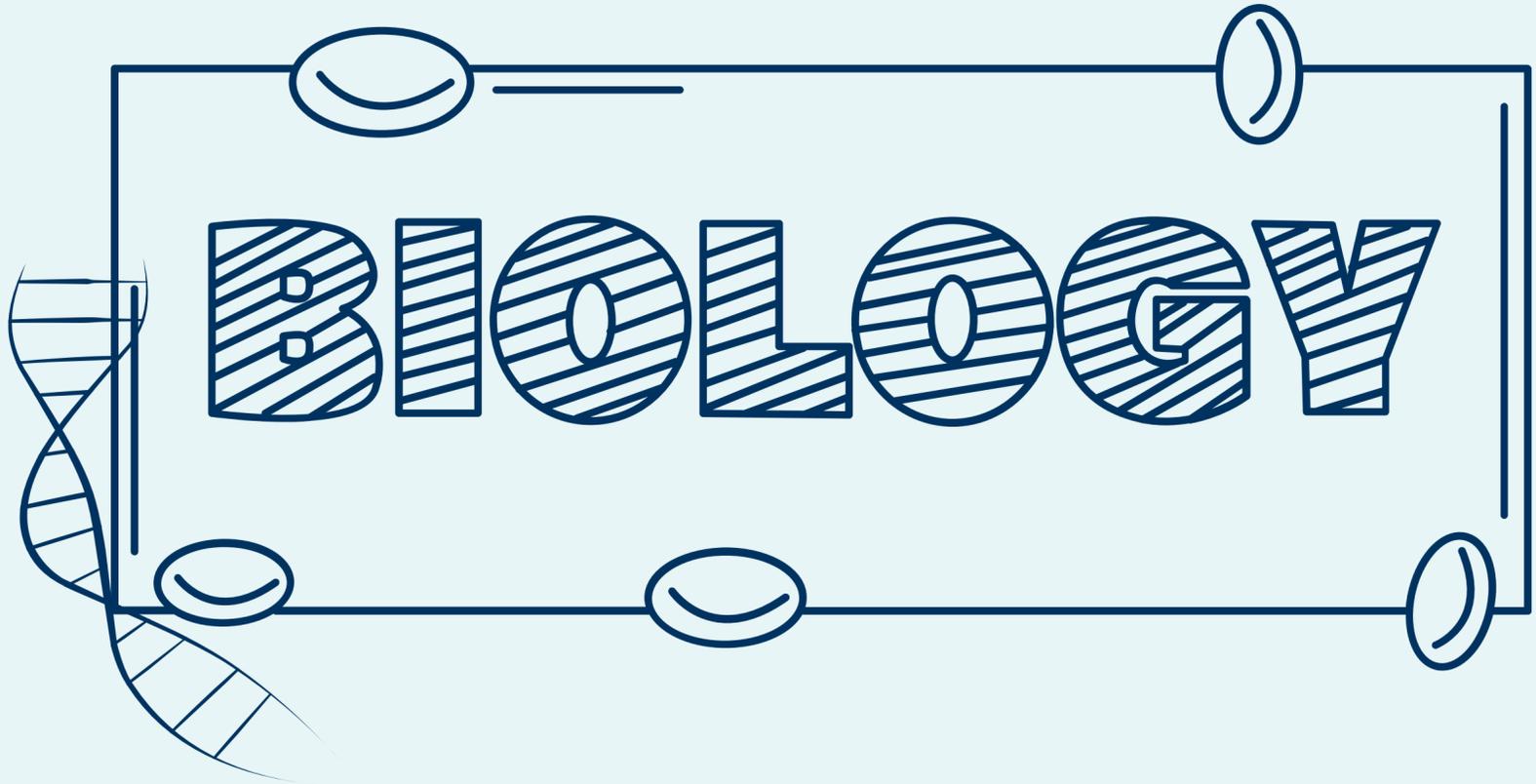


Quiz time

Lec 3



1. Regarding the timeline of cellular evolution, which of the following statements is most accurate?

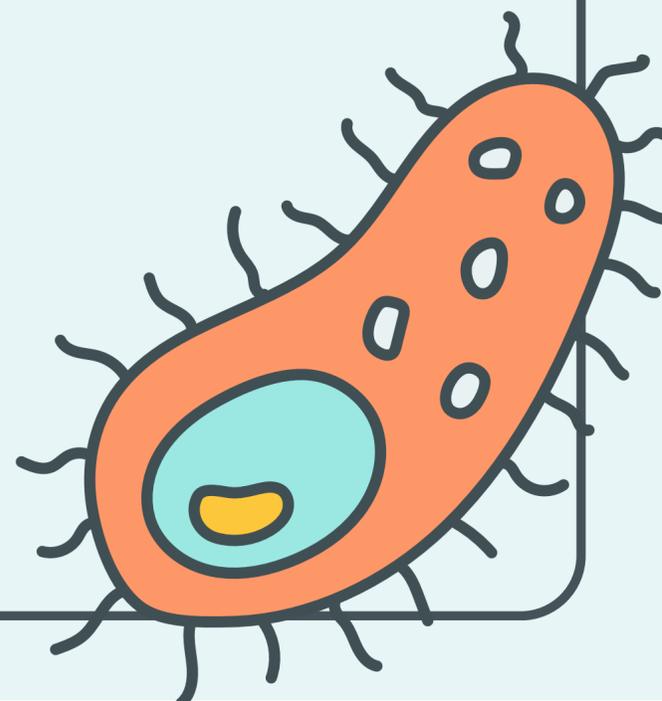
- A. Prokaryotic and eukaryotic cells appeared on Earth at approximately the same time.
- B. Eukaryotic cells appeared first, and prokaryotic cells evolved from them.
- C. Prokaryotic cells appeared first and were the sole form of life for billions of years before eukaryotes emerged.
- D. The fossil record shows no clear evidence for which cell type appeared first.
- E. Prokaryotic cells evolved from eukaryotic cells through a process of simplification.

2. A key structural difference between prokaryotic and eukaryotic genetic material is:

- A. The presence of DNA in prokaryotes and RNA in eukaryotes.
- B. The circular shape and nucleoid location in prokaryotes versus linear DNA within a membrane-bound nucleus in eukaryotes.
- C. The association of prokaryotic DNA with histones, which is absent in eukaryotes.
- D. The replication of genetic material occurs only in eukaryotic cells.
- E. Prokaryotes have multiple chromosomes, while eukaryotes have a single, circular chromosome.

3. Which of the following is a feature found in BOTH prokaryotic and eukaryotic cells?

- A. A nuclear envelope
- B. Membrane-bound organelles
- C. A plasma membrane
- D. A cell wall composed of cellulose
- E. Centrioles



4. When comparing the size and complexity of prokaryotic and eukaryotic cells, which statement is correct?

A. Prokaryotic cells are typically larger and more structurally complex than eukaryotic cells.

B. Eukaryotic cells are generally smaller but more complex than prokaryotic cells.

C. Prokaryotic and eukaryotic cells are identical in size and internal complexity.

D. Eukaryotic cells are generally larger and have a more complex internal structure than prokaryotic cells.

E. Size and complexity are not distinguishing features between the two cell types.

5. A researcher identifies a unicellular organism with a cell wall, circular DNA in a nucleoid, and ribosomes, but no other visible organelles. This organism most likely belongs to which group?

A. Fungi

B. Animals

C. Plants

D. Protists

E. Bacteria

6. Which of the following organelles is specifically mentioned as being present in animal cells but absent in plant cells, according to the provided document?

A. Cell Wall

B. Chloroplasts

C. Centrioles

D. One Large Vacuole

E. Nucleolus

7. The term "organelles" in eukaryotic cells specifically refers to:

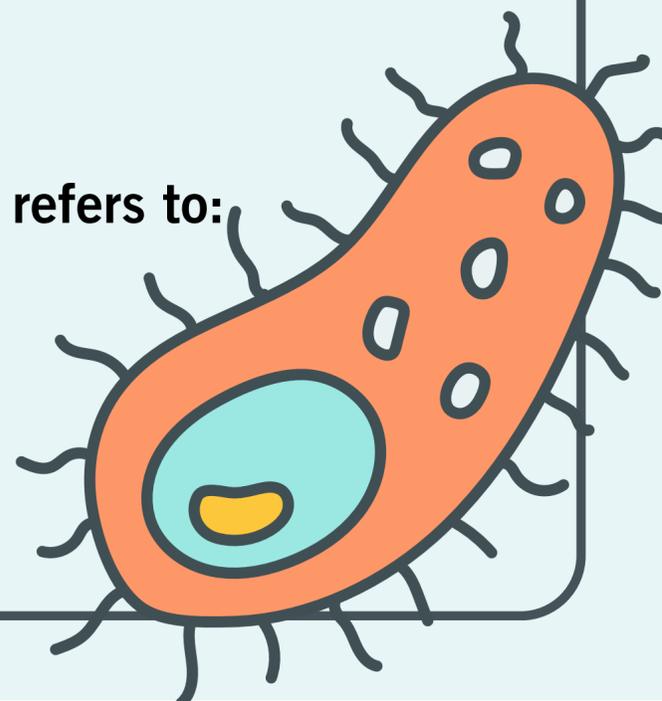
A. All components found within the cytoplasm.

B. The nucleus and the cytoplasm only.

C. Membrane-bound structures with specific functions.

D. Structures exclusively involved in protein synthesis.

E. The cytoskeleton and its associated proteins.



8. Which of the following is NOT a characteristic feeding mode of prokaryotes mentioned in the lecture?

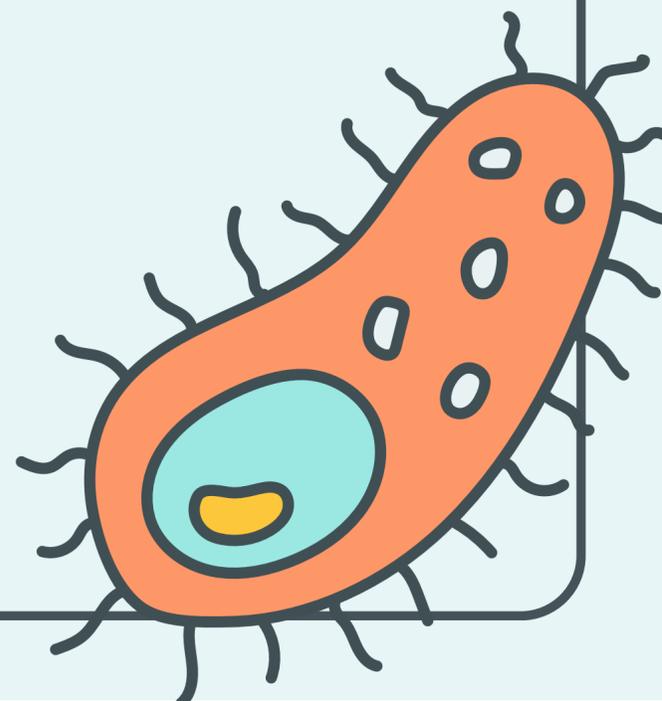
- A. Photosynthetic
- B. Decomposers
- C. Disease-causing (parasitic)
- D. Chemosynthetic (using inorganic chemicals)
- E. Feed on living things

9. The primary function of flagella in prokaryotic cells is:

- A. Protein synthesis
- B. Adhesion to surfaces
- C. Motility (swimming)
- D. DNA replication
- E. Forming protective biofilms

10. What is considered a major evolutionary advantage of eukaryotic architecture that is generally not available to prokaryotes?

- A. Faster reproduction rates
- B. Simplicity and ease of growth
- C. The ability for cells to specialize and form complex, multicellular organisms
- D. The presence of a cell wall for protection
- E. Having circular DNA for more efficient replication



ANSWERS :

- 1.C. Prokaryotic cells appeared first and were the sole form of life for billions of years before eukaryotes emerged.
- 2.B. The circular shape and nucleoid location in prokaryotes versus linear DNA within a membrane-bound nucleus in eukaryotes.
- 3.C. A plasma membrane.
- 4.D. Eukaryotic cells are generally larger and have a more complex internal structure than prokaryotic cells.
- 5.E. Bacteria.
- 6.C. Centrioles.
- 7.C. Membrane-bound structures with specific functions.
- 8.D. Chemosynthetic (using inorganic chemicals).
- 9.C. Motility (swimming).
- 10.C. The ability for cells to specialize and form complex, multicellular organisms.

