

# Microbiology Essentials

Microbiology · Answer Key · 8 Questions

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**1. Which cellular structure is responsible for protein synthesis in both prokaryotic and eukaryotic cells?**

- A) Mitochondria
- B) Ribosomes**
- C) Golgi apparatus
- D) Endoplasmic reticulum

**2. What is the primary component of the cell wall in bacteria that provides structural integrity?**

- A) Chitin
- B) Cellulose
- C) Peptidoglycan**
- D) Pectin

**3. Which scientist is credited with the discovery of penicillin, the first true antibiotic?**

- A) Louis Pasteur
- B) Robert Koch
- C) Alexander Fleming**
- D) Joseph Lister

**4. In microbiology, what is the function of the Gram stain procedure?**

- A) To identify viral replication
- B) To differentiate bacterial species into two large groups based on cell wall composition**
- C) To measure the rate of bacterial metabolism
- D) To isolate fungi from environmental samples

**5. Which of the following describes a microorganism that requires oxygen for growth and survival?**

- A) Obligate aerobe**
- B) Obligate anaerobe
- C) Facultative anaerobe
- D) Microaerophile

**6. Viruses are considered obligate intracellular parasites because they lack the ability to:**

**A) Produce their own ATP and replicate independently**

B) Synthesize lipids

C) Maintain an internal pH

D) Form multicellular structures

**7. What term describes the process by which a bacterium reproduces by dividing into two equal halves?**

A) Conjugation

B) Transformation

**C) Binary fission**

D) Sporulation

**8. Which structure allows certain bacteria to move through an aqueous environment?**

A) Pili

B) Capsule

**C) Flagellum**

D) Plasmid