

Mastery Series: Introduction

1. What are the basic groupings of living things (according to these simplified notes)?
2. Define microbiology and pathogen using their root words.
3. Which of the possible pathogens is almost synonymous with the word prokaryote?
4. Which organisms lack cell walls?
5. Which organisms lack a cell membrane? Hint – trick question!
6. Why do you think it is debated whether or not viruses are “alive”?
7. Give a bacterial example for:
 - a. Gram positive coccus:
 - b. Gram negative coccus:
 - c. Gram positive rod:
 - d. Gram negative rod:
8. Give an example for a protist that:
 - a. Causes diarrhea
 - b. Causes malaria
 - c. Causes vaginosis
 - d. Causes sleeping sickness
9. Give an example of a problem caused by:
 - a. Candida
 - b. Dermatophytes
10. Give an example of a bacteria transmitted by fleas.
11. Give an example of a protist transmitted by mosquitos.
12. Give an example of a virus that attacks the immune system.

Mastery Series ANSWERS: Introduction

1. What are the basic groupings of living things (according to these simplified notes)?
Bacteria, Protists, Fungi, Plants, Animals
2. Define microbiology and pathogen using their root words.

Microbiology = “small life”; and pathogen = “disease causer”
3. Which of the possible pathogens is almost synonymous with the word prokaryote?
Bacteria
4. Which organisms lack cell walls?
Protists, Animals
5. Which organisms lack a cell membrane? Hint – trick question!
None—all living things have a cell membrane (also known as a plasma membrane)
6. Why is it debated whether or not viruses are “alive”?
They lack a cell membrane, they can’t reproduce on their own, and they can’t generate their own cellular energy.
7. Give a bacterial example for:
 - a. Gram positive coccus: *Staphylococcus, Streptococcus, Micrococcus, Enterococcus*
 - b. Gram negative coccus: *Neisseria*
 - c. Gram positive rod: *Clostridium, Bacillus*
 - d. Gram negative rod: *Escherichia, Pseudomonas, Proteus, Klebsiella, Enterobacter*
8. Give an example for a protist that:
 - a. Causes diarrhea: *Giardia, Entamoeba*
 - b. Causes malaria: *Plasmodium*
 - c. Causes vaginosis: *Trichomonas*
 - d. Causes sleeping sickness: *Trypanosoma*
9. Give an example of a problem caused by:
 - a. Candida: **fungal infections (thrush, “yeast” infection)**
 - b. Dermatophytes: **fungal infections (jock itch, athlete’s foot, ringworm, mange, nail fungus)**
10. Give an example of a bacteria transmitted by fleas. *Yersinia pestis* (Bubonic Plague)
11. Give an example of a protist transmitted by mosquitos. *Plasmodium*
12. Give an example of a virus that attacks the immune system. *Human Immunodeficiency virus (HIV)*