

Guided Work 02

Bacteria Observation and Staining

1. Define the following terms: Gram-positive bacteria, Gram-negative bacteria, Bacilli, Cocci, Spirilla, Acid-fast.
2. Why is fixation a crucial step before any staining?
3. How do Gram staining and Ziehl–Neelsen staining differ? Which bacteria are targeted by each? Give examples.
4. Interpret the following microscope results:
 - a) Bacteria appear purple cocci in clusters.
 - b) Bacteria appear pink bacilli in chains.
 - c) Bacteria appear as small spiral forms.
5. Why do Gram-positive bacteria remain purple, while Gram-negative bacteria turn pink?
6. What is the difference between direct examination in the fresh state and observation after staining?
7. What is the importance of methylene blue staining? What type of bacteria are stained?
8. What staining technique is used to identify bacterial spores, and why is it necessary?
9. What are the particularities of observing fungi in the fresh state?