

3. **Normal flora**—Microscopic plant life such as bacteria which are adapted to residing in a given area of the body during health

Examples: Skin flora, intestinal flora, vaginal flora

✓ **NOTE:** Normal flora live in a state of relative balance. Any condition such as excessive antibiotic intake that upsets this balance can cause an overgrowth of other organisms in the area with resulting symptoms of disease.

OBJECTIVE 6

Describe the purpose of a *gram stain*.

1. **Identifies the shape of a *pathogen***
2. **Indicates a positive or negative characteristic allowing preliminary identification of the organism**

✓ **NOTE:** The identification and treatment of a disease often depends on interpreting a limited number of clues, such as a person's symptoms. Another clue is the identification of the pathogenic organism involved. One method of identifying bacteria is the gram stain, in which an infected sample or **culture**, such as saliva, is treated with a dye and examined under a microscope. The shape and color of the organism is apparent under the microscope. If the bacteria turn a bluish color, the bacteria can be classed as gram-positive bacteria. If the bacteria turn a reddish color, the bacteria can be classed as gram-negative bacteria. Since a genus will react as either positive or negative and a shape may be particular to a genus or species, the gram-stain test is often enough to specifically identify an organism.

Examples of gram-positive bacteria: *Streptococcus, Staphylococcus, Clostridium*

Examples of gram-negative bacteria: *Pseudomonas, Proteus, Salmonella, Hemophilus*

KEY TERMS

Gram stain—Laboratory technique to identify bacteria which consists of staining bacteria with a violet stain and then counterstaining with a red stain

Pathogen—Disease-causing microorganism

Culture—Tissue sample, washing or swabbing that is grown in a media under either aerobic or anaerobic conditions

OBJECTIVE 7

Select true statements concerning the characteristics of bacteria.

1. **Are unicellular**
2. **Are simple organisms**
3. **Ordinarily do not contain chlorophyll**
4. **Have approximately 2000 known species and are found everywhere**
5. **Only about 100 species produce disease in human beings**