VOCABULARY REVIEW
1. d. Infection
2. k. Microorganisms
3. h. Pathogens
4. a. Permeable
5. l. Sanitization
6. g. Spores
7. i. Sterilization
8. e. Antiseptic
9. b. Contamination
10. c. Disease
11. j. Disinfection
12. f. Edema

SKILLS AND CONCEPTS
1. Sanitization is the cleaning of instruments and the environment to reduce the number of pathogenic microorganisms. Disinfection is the destruction of pathogens by physical or chemical means. Sterilization is the destruction of all microorganisms with chemicals or by autoclaving.

2. a. Chemical: Autoclave tape contains a chemical dye that changes color when exposed to steam. The change in color indicates the exterior of the pack was exposed to heat and steam.
   b. Biologic: Biological sterilization indicators include a spore strip indicator, which contains a temperature-sensitive dye that changes color when the proper combination of steam, temperature, and time has been achieved. An indicator strip should be placed in the center of the largest pack. Biological sterilization indicators are the best method for checking autoclaving procedures and should be used for quality assurance.

3. Refer to Table 57-2 in the text.

4. a. Cryosurgery: Extreme cold is used to destroy tissues such as warts and skin lesions.
   b. Microsurgery: An operating microscope is used to perform delicate surgical procedures.
   c. Endoscopic procedures: A fiberoptic instrument with a miniature camera mounted on a flexible tube is used to examine the inside of an organ or cavity; the procedure’s name reflects the organs or areas explored.
   d. Electrosurgery: A high-frequency current is used to cut through tissue and coagulate blood vessels.
   e. Laser: Tiny light beams are used to treat specific tissues while causing minimal damage to surrounding tissues and limited scar formation.

5. Refer to Procedure 57-3 in the text.

6. True
7. True
8. False
9. True
10. True
11. True
12. True
13. True
14. False
15. True
16. False
17. True
18. a. The lag phase occurs first, when the blood vessels contract to control hemorrhage and blood platelets form a network in the wound that acts like glue to plug the wound.
   b. Proliferation is the wound healing and new growth period, which lasts 5 to 20 days. During this phase, the tissues repair themselves.
   c. The final phase, or remodeling phase, extends from day 21 onward. Clean, shallow wounds may contract in the first two stages; large or mangled wounds require the time and cellular activity of this third phase to build a bridge of new tissue to close the gap of the wound.
19. Wounds are classified by the way they repair themselves. A clean surgical wound that has been sutured closed and heals quickly without much scarring does so by first intention. Tissues that are severely damaged or purposely kept open or that fail to close are said to heal by granulation (i.e., healing from the bottom of the wound outward), which is called second intention healing.
20. a. To protect the wound from injury and contamination
   b. To maintain constant pressure to minimize bleeding and swelling
   c. To hold the wound edges together
   d. To absorb drainage and secretions
21. Bandages hold dressings in place and also help maintain even pressure, support the affected part, and protect the wound from injury and contamination. Bandages can be made of gauze, cloth, or elastic cloth rolls and are bound by clips, tape, or ties. Bandages that are too loose fall off, and those that are too tight may compromise circulation and further harm the patient. If a bandage is to cover a wound, it should always be applied over a sterile dressing.
22. Medical asepsis is the destruction of organisms after they leave the body. Medical asepsis is used to prevent re-infection of a patient and cross-infection of another patient or oneself. Surgical asepsis is the complete destruction of organisms on instruments or equipment that will enter the patient’s body. This technique is mandatory for any procedure that invades the body’s skin or tissues, such as surgery. Everything that comes in contact with the patient must be sterile, including surgical gowns, drapes, and instruments, as well as the gloved hands of the surgeon and surgical assistants. Any time the skin or a mucous membrane is punctured or pierced, as in venipunctures or injections, aseptic techniques must be practiced. Urinary catheterizations, biopsies, and dressing changes on open wounds are performed using sterile techniques.
23. Muslin and autoclave paper packs are considered sterile for up to 28 days from the date of sterilization. Polypropylene autoclave bags are sterile for up to 6 months from the sterilization date.
24. The medical assistant must take the time preoperatively and at the time of surgery to help the patient deal with fears and anxieties. Preoperative preparation may include blood and urine tests, completion of a consent form, and gathering of the current history concerning any recent illnesses, medications, and allergies. Patient preparations before surgery may include a shave preparation, cleansing enemas, food intake restrictions, special bathing, and administration of a sedative medication.
25. Refer to Procedure 57-3 in the text.
WORKPLACE APPLICATION OPTIONS

2. Answers may include:
   - Stand behind the door when opening it to prevent accidental steam burns.
   - Slowly open the door only a crack, allowing the items to cool for 15 to 20 minutes before removing them.
   - If for any reason the integrity of the sterilization process is in question, consider the load contaminated and re-autoclave it. Reasons for concern include:
     - Any load that fails to convert a sterilization indicator strip.
     - Any loads processed after a biologic test indicates that the autoclave is not working properly.

4. Open wound healing means that the wound will not be sutured; it will be allowed to heal from the inside out through granulation. Advantages of this type of healing process include:
   - It allows air to circulate freely around the wound.
   - The wound is not irritated or rubbed by a dressing.
   - The wound stays dry, which inhibits bacterial growth, reducing the chance of infection.
   - Sutures stay dry and hold together better.
   - Any pre-existing infection remains localized and is not spread by the dressing or bandage.

5. Refer to Procedure 57-4 in the text.