All science problems address TEKS 130.251. Introduction to Cosmetology.

### Introduction to Cosmetology.
(2) The student applies academic skills to the field of cosmetology. The student is expected to:
- (B) relate principles of chemistry by explaining the composition, structure, and properties of substances and of chemical processes to provide a broad range of personal care services.

### Chemistry.
(4) Science concepts. The student knows the characteristics of matter and can analyze the relationships between chemical and physical changes and properties. The student is expected to:
- (A) differentiate between physical and chemical changes and properties.

(10) Science concepts. The student understands and can apply the factors that influence the behavior of solutions. The student is expected to:
- (I) define pH and use the hydrogen or hydroxide ion concentrations to calculate the pH of a solution.

1. In scalp analysis, a cosmetologist analyzes texture, porosity, and density. These are all what types of properties?
   - a. Physical properties
   - b. Chemical properties
   - c. Thermal properties
   - d. Integral properties
2. Teasing, crimping, and curling are all what types of changes?
   a. Physical changes
   b. Chemical changes
   c. Thermal changes
   d. Integral changes

3. The softness or hardness of water is a:
   a. Physical property
   b. Chemical property
   c. Thermal property
   d. Integral property

4. Nail polishes, glues, and other products used in nail salons may contain a variety of chemicals such as:
   a. Toluene, formaldehyde, dibutyl phthalate and methacrylate compounds
   b. Acetone, gasoline and hydrogen iodide
   c. Acetonitrile, iodine, and chlorine
   d. Butyl acetate, benzyl chloride and sulfuric acid

5. The pH of skin
   a. is normally less than 7
   b. is normally greater than 7
   c. is neutral
   d. is constant and cannot be affected by cosmetics

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**Introduction to Cosmetology.**

(2) The student applies academic skills to the field of cosmetology. The student is expected to:

(A) principles of biology, tissues, and cells to provide and select safe and effective personal care products and services

**Biology.**

(4) Science concepts. The student knows that cells are the basic structures of all living things with specialized parts that perform specific functions and that viruses are different from cells. The student is expected to:

(C) compare the structures of viruses to cells, describe viral reproduction, and describe the role of viruses in causing diseases such as human immunodeficiency virus (HIV) and influenza

**Biology.**

(8) Science concepts. The student knows that taxonomy is a branching classification based on the shared characteristics of organisms and can change as new discoveries are made. The student is expected to:

(C) compare characteristics of taxonomic groups, including archaea, bacteria, protists, fungi, plants, and animals
Biology.
(10) Science concepts. The student knows that biological systems are composed of multiple levels. The student is expected to:
(A) describe the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals

6. Which organism below is commonly found on the skin surface but can cause serious illness if it manages to enter the body and produce its proteins?
   a. Listeria monocytogenes
   b. Escherichia coli
   c. Bacillus anthracis
   d. Staphylococcus aureus

7. __________ is a disease caused by a virus. It can be transmitted by exposure to body fluids. Initially, the illness may include a short period of flu-like symptoms with fever, achiness, swollen lymph nodes and fatigue.
   a. Staph infection
   b. Strep infection
   c. Colitis
   d. AIDS

8. Colitis is:
   a. a condition which is caused by a virus and can cause flu-like symptoms, fever, achiness, and fatigue
   b. a condition resulting from the inflammation of intestines that can result in fever, chills, fatigue, abdominal pain, diarrhea and bleeding
   c. a condition caused by bacterial infection. It can result in tenderness, swelling and redness of the skin
   d. a bacterial infection that can affect the skin or throat

9. This condition is caused by a bacterial infection which can produce tenderness, swelling and redness in the areas affected. The infection is contagious if the wound is draining.
   a. Staph infection
   b. Rhinovirus infection
   c. Colitis
   d. AIDS

10. Toluene, found in nail polish and fingernail glue, can affect your body by:
    a. dry or cracked skin
    b. headaches, dizziness and numbness
    c. irritated eyes, nose, throat and lungs
    d. All of the above
## Answer Key

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