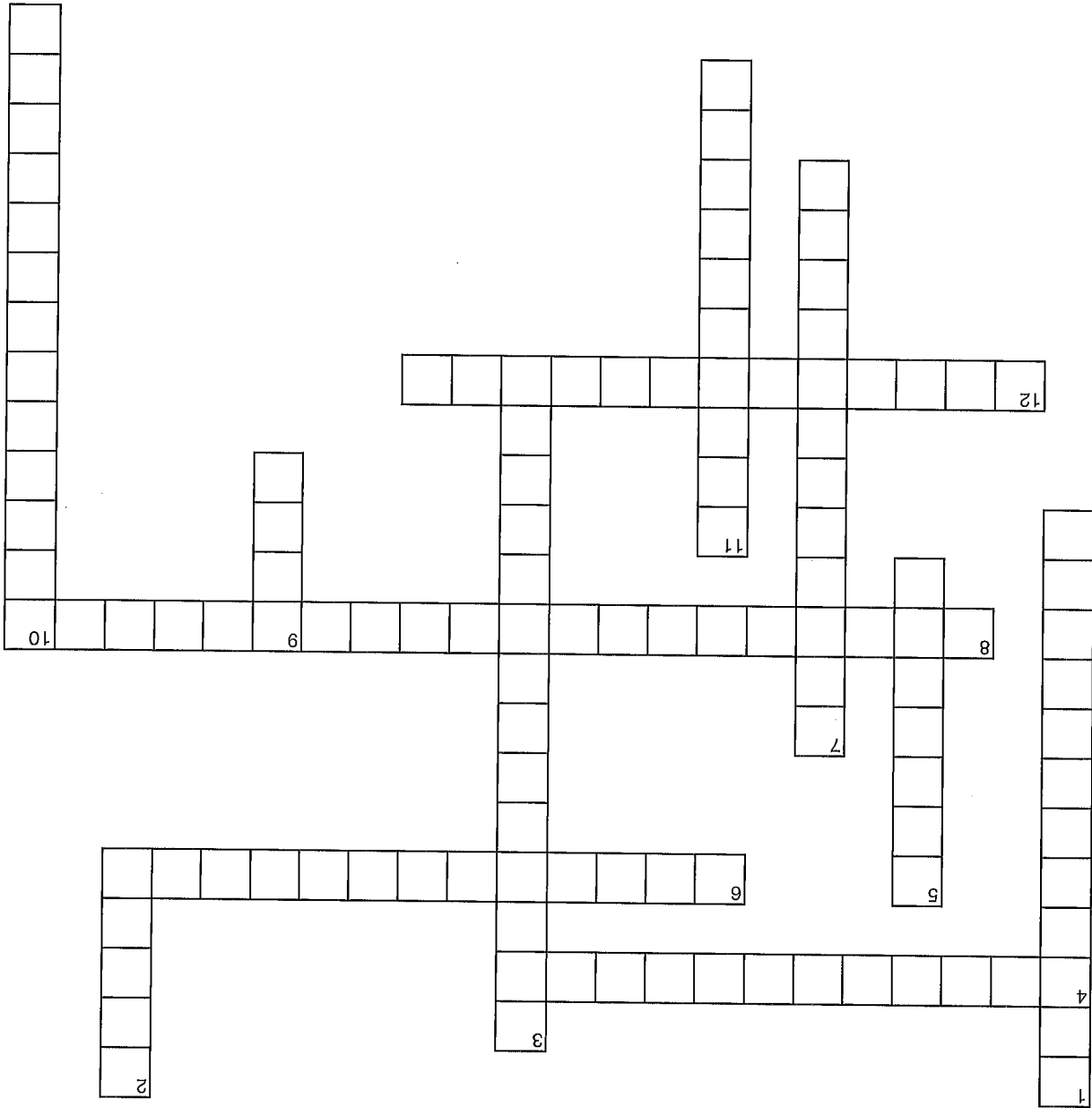


Lesions	Primary or Secondary P or S	Characteristics	Perform a Salon Service Yes-Y, No-N, Caution-C *Caution depends on the state of the lesion
Papule			
Pustule			
Scale			
Scar/Cicatrix			
Tumor			
Ulcer			
Vesicle			
Wheal			

ACTIVITY 2 Crossword Puzzle: Common Disorders of the Sebaceous and Sudoriferous Glands

Complete the crossword puzzle using the clues on page 106.





ESSENTIAL EXPERIENCE

Recognize Inflammations and Common Infections of the Skin

ACTIVITY Matching Exercise

Complete the following exercise by matching the word to its definition.


- | | | |
|-------|------------------|--|
| _____ | Conjunctivitis | 1. Characterized by weeping lesions |
| _____ | Dermatitis | 2. Recurring viral infection/cold sore |
| _____ | Eczema | 3. Also known as pinkeye |
| _____ | Herpes simplex I | 4. Inflammatory condition of the skin |
| _____ | Impetigo | 5. Characterized by red patches covered with silver-white scales |
| _____ | Psoriasis | 6. Inflammation, scaling, and severe itching |

List Hypertrophies of the Skin

ACTIVITY 1 Describe Hypertrophy

ACTIVITY 2 Complete the Following Chart on the Four Hypertrophies

Characteristics	Examples	Hypertrophy
		Keratoma
		Mole
		Skin tag
		Verruca

ACTIVITY  Role Playing

Pretend you have a client with a mild acne problem. Give your client a consultation on acne treatment. Work with a classmate or write down your recommendations from your perspective with a client in the space provided. Did your consultation include cleanser, exfoliants, toners, and moisturizer?



Understand the Sun and Its Effects

 **ACTIVITY** Word Search

Find 14 terms in the word search that relate to the sun and its effects on the skin.

T	N	A	T	S	I	S	E	R	R	E	T	A	W	N	Y	N	G	R	
B	G	Y	Q	K	R	L	Y	S	U	N	S	C	R	E	N	U	O	K	
Q	L	B	Q	I	B	N	Q	A	D	A	N	P	B	N	X	M	T	S	X
J	V	W	Q	N	Y	L	W	P	R	R	G	T	B	B	C	N	R	Q	
U	T	D	G	C	L	G	T	A	G	G	Q	I	J	L	A	D	T	M	L
Y	J	J	D	A	D	Z	M	V	T	R	N	N	N	F	X	Q	Q	G	B
R	N	T	Z	N	Q	T	B	V	T	E	Q	I	N	G	N	T	Z	T	Q
W	K	Z	Q	C	M	J	D	G	L	J	R	O	N	M	R	J	R	T	T
T	K	K	J	E	D	U	L	G	Y	G	I	P	D	R	R	A	Y	B	W
J	J	N	Z	R	Q	W	R	L	T	T	N	W	R	B	U	V	Y	R	Y
M	R	S	Y	D	D	B	N	T	C	E	P	I	Y	O	N	B	T	N	B
Y	Z	G	W	G	J	D	Z	E	C	P	L	M	G	W	O	M	Z	R	N
Y	G	B	Q	E	N	G	T	M	G	E	Q	O	J	A	L	F	Z	L	T
B	Q	B	T	K	A	O	D	Z	T	P	J	I	A	T	B	X	T	J	
B	L	W	Z	L	R	T	Y	Q	J	X	V	S	V	L	T	Z	Y	D	
L	T	P	P	P	N	T	P	K	B	K	X	U	D	W	A	L	W	R	M
X	B	D	N	J	X	D	T	R	N	B	M	L	Y	A	N	R	J	J	N
T	Y	U	V	B	N	Z	N	Z	O	Y	L	N	M	D	O	R	T	R	K
B	S	L	P	D	V	T	B	Y	T	O	X	J	J	M	K	R	K	L	K
L	M	J	Y	B	Y	N	V	M	L	N	F	N	W	Q	W	L	B	V	U

ESSENTIAL REVIEW

ACTIVITY 1 Word Search



After identifying the correct word from the clues provided, locate the words in the word search.

Word

Clue

Closed, abnormally developed sac, containing fluid, semifluid, or morbid matter, above or below the skin

Abnormal growth of the skin

Skin disorder characterized by light abnormal patches

Small, brownish spot or blemish on the skin

Inflamed pimple containing pus

Abnormal brown or wine-colored skin discoloration with a circular and irregular shape

Abnormal rounded, solid lump above, within, or under the skin; larger than a papule

An abnormal cell mass resulting from excessive multiplication of cells, varying in size, shape, and color

Open lesion on the skin or mucous membrane of the body, accompanied by pus and loss of skin depth

Technical term for wart; hypertrophy of the papillae and epidermis

Milky white spots (leukoderma) of the skin; acquired condition

Itchy, swollen lesion that lasts only a few hours; caused by a blow, an insect bite, urticaria, or the sting of nettle

ACTIVITY 2 Multiple Choice

Complete the following review of Chapter 8, Skin Disorders & Diseases, by circling the correct answer to each statement.

1. A chronic condition that appears primarily on the cheeks and nose and is characterized by flushing is called _____.
a) rosacea
b) asteatosis
c) seborrhea
d) steatoma
2. An itchy, swollen lesion that typically lasts only a few hours is a _____.
a) wheal
b) tubercle
c) bulla
d) macule
3. When checking existing moles for signs of cancer, look for asymmetry, differences in size and shape, changes in diameter, and _____.
a) feel
b) smell
c) color
d) symmetry
4. Smoking, drinking, and making poor dietary choices greatly influence the _____ process.
a) developmental
b) stimulation
c) sunscreen
d) aging
5. An abnormal developed sac, above or below the skin, that contains pus, semifluid, or morbid matter is known as a _____.
a) bulla
b) cyst
c) pustule
d) liver spot
6. A thick scar resulting from excessive growth of fibrous tissue is
a/an _____.
a) excoriation
b) fissure
c) ulcer
d) keloid
7. Another name for a scar is _____.
a) crust
b) excoriation
c) ulcer
d) cicatrix
8. A skin condition caused by an inflammation of the sebaceous glands is _____.
a) chronic rosacea
b) retention hyperkeratosis
c) seborrheic dermatitis
d) herpes simplex
9. A blister containing a watery fluid, similar to a vesicle, but larger, is _____.
a) _____
b) wheal
c) bulla
d) tubercle
e) macula

ESSENTIAL DISCOVERIES AND ACCOMPLISHMENTS

In the space provided, write down key concepts of this chapter. Share your Essential Discoveries with other students in your class and ask if the notes are helpful to them. You may want to update your discoveries based on good ideas shared by your peers.

Discoveries:

List at least three things you have accomplished since your last entry that relate to your career goals.

Accomplishments:


ESSENTIAL REFLECTIONS

What do I need to know about the nail, its structure, and growth in order to provide quality manicuring and pedicuring services?

You will need to recognize that the condition of the nail may actually reflect the general health of the whole body. You need to understand the structure of the nail and also the structures surrounding the nail. Once you understand how the nail grows, you will be better equipped to recognize the malformations, disorders, and irregularities that your clients may bring to the salon. When you have gained that knowledge, you can proceed confidently with appropriate nail services knowing that you and your client are not at risk.

Answer a few questions to test your knowledge on the nail structure and growth:

1. All of these things affect nail growth except _____.
 - a) nutrition
 - b) exercise
 - c) general health
 - d) intelligence
2. After losing a toenail, how long does it take for a new nail to completely take its place?
 - a) 5 months
 - b) 7 months
 - c) 9 to 12 months
 - d) 13 months
3. What does an adequate amount of water do for the nail?
 - a) Makes it thick
 - b) Makes it flexible
 - c) Makes it brittle
 - d) Makes it yellowish
4. What does an inadequate amount of water cause?
 - a) Thinness
 - b) Yellowing
 - c) Rigidity
 - d) Whitish color
5. Poor nail growth is caused by all but what factor?
 - a) Poor general health
 - b) Injury to the matrix
 - c) Nail disorder or disease
 - d) Exercise

 **ACTIVITY 1** What Are the Nine Parts of the Nail Unit?

- 1. _____
- 2. _____
- 3. _____
- 4. _____
- 5. _____
- 6. _____
- 7. _____
- 8. _____
- 9. _____

Discuss Nail Growth

ACTIVITY 1 Factors That Affect the Growth of Nails

If available, use the same partner from the previous exercise and explain how nails grow, or explain in the space provided. Remember to use the proper terms.

ACTIVITY 2 Nail Growth True/False Challenge

Answer each statement with a T for true or an F for false. If the statement is false, correct it in the space provided.

1. _____ Nail growth rate is fastest on the nail of the middle finger and slowest on the thumbs.

2. _____ Fingernails grow more slowly than toenails.

3. _____ Replacement of a natural fingernail takes about nine months to a year.

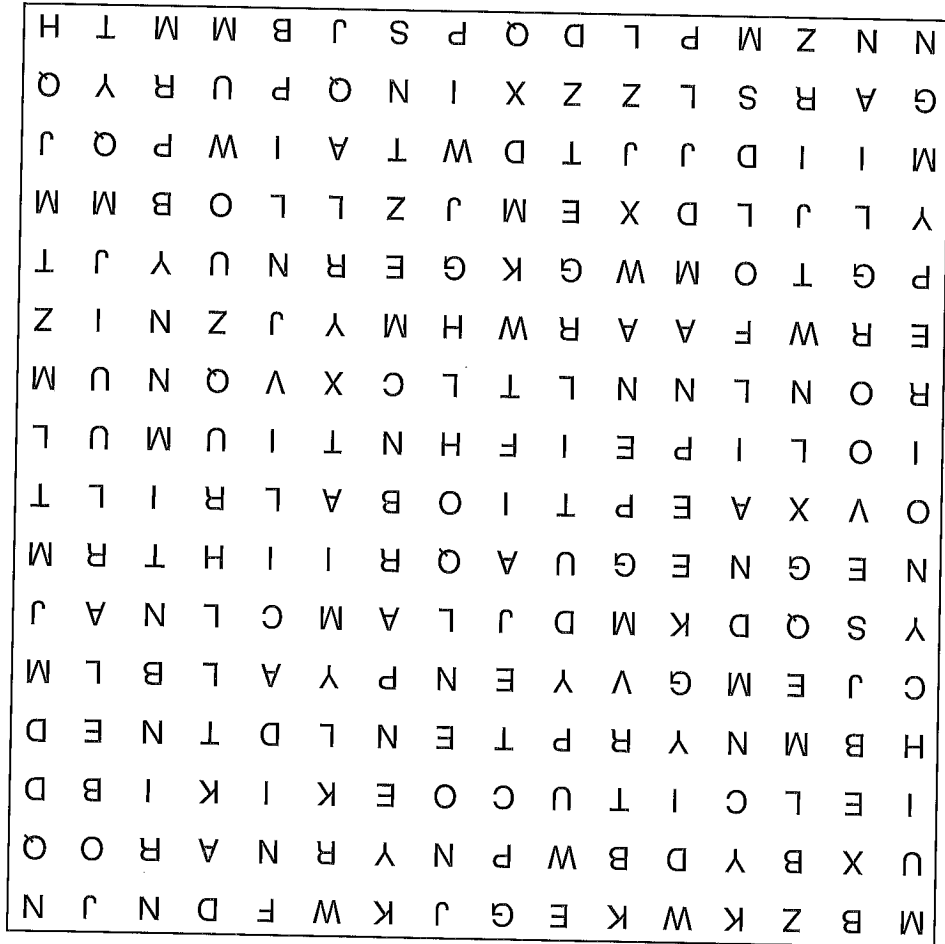
4. _____ The average nail plate grows about 1/4 to 1/2 inch a month.

5. _____ No product or procedure can make the nail plate grow thicker.

ACTIVITY 2 Nail Structure Word Search

Find the key words listed below in the word search puzzle.

- | | | |
|----------------|--------------|-------------------|
| bed epithelium | nail bed | nail folds |
| cuticle | lunula | nail grooves |
| eponychium | matrix | nail malformation |
| free edge | perionychium | nail plate |
| hyponychium | sidewall | nail unit |



ESSENTIAL OBJECTIVES

After studying this chapter and completing the Essential Companion components, you will be able to:

- LO 1 List and describe the various disorders and irregularities of nails.
- LO 2 Recognize diseases of the nails that should not be treated in the salon.
- LO 3 Perform a hand, nail, and skin analysis on a client.

why study
 NAIL DISORDERS
 AND DISEASES?

Did you know you actually have a greater chance of contracting a nail disease from a client than skin disease or head lice? Therefore, careful analysis of the client's hands and nails is essential both to your safety and that of your clients. Think about it. If you contract an infection, it may prevent you from working for an extended period of time, and that will cost you money, both in lost income and medical expenses. So, learning about the diseases and disorders associated with nails is extremely relevant to your future success and well-being.

Cosmetologists should study and have a thorough understanding of nail disorders and diseases because:

- > You must be able to identify those conditions on a client's nails and determine if they should or should not be treated in the salon.
- > You must acknowledge infectious conditions that may be present so you can take the appropriate steps to protect yourself and your clients from the spread of disease.
- > You need to be able to recognize conditions that may signal mild to serious health problems that warrant the attention of a doctor.



ESSENTIAL EXPERIENCE

Pinpoint Common and

Uncommon Nail Disorders

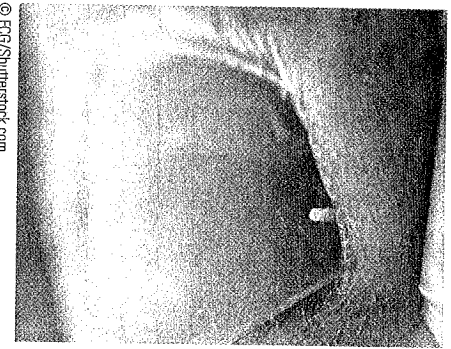
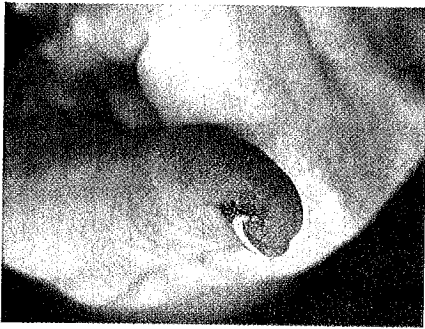
ACTIVITY 1 Common Nail Disorders

Can you recognize the **common** nail disorders? Complete the chart of all the common nail disorders. Describe their appearance and cause. Denote if the nail disorder is treatable or nontreatable in the salon by entering Y for Yes or N for No.

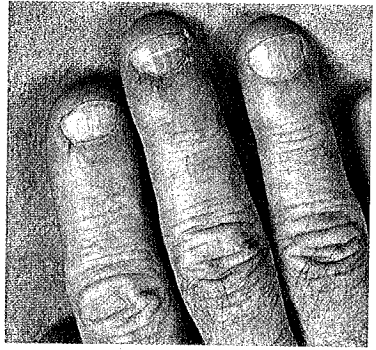
Nail Disorder	Description	Cause	Salon Service Y-Yes / N-No
Beau's lines			
Blue fingernails			
Bruised nail beds			
Discolored nails			
Eggshell nails			
Hangnails			
Koilonychia			
Leukonychia spots			

ACTIVITY 2 Nail Disorders: Group Activity

Share your chart from the previous exercise with the group. Using the charts as reference, label each of the following pictures or illustrations using the terms below. Feel free to use your textbook if needed.



© FCG/Shutterstock.com



6. Plicated nail

7. Pterygium

8. Onychosis

9. Onychia

10. Onychocryptosis

PROPERTIES OF THE HAIR & SCALP



ESSENTIAL OBJECTIVES

After studying this chapter and completing the Essential Companion components, you will be able to:

- LO 1 Identify and distinguish the different structures of the hair root.
- LO 2 Point out and differentiate among the three main layers of the hair shaft.
- LO 3 Identify and explain the three types of side bonds in the cortex.
- LO 4 Name and compare the differences among the three cycles of hair growth.
- LO 5 Give examples of the common types of hair loss and explain what can cause hair loss.
- LO 6 Identify and explain at least three options for hair loss treatment.
- LO 7 Learn to identify the most common hair and scalp disorders seen in the salon and school, and then name which ones a physician should treat.
- LO 8 Compare and describe the different factors that should be considered in a hair and scalp analysis.

why study PROPERTIES OF THE HAIR AND SCALP?

Men and women of all ages want healthy and attractive hair. In order to provide the best possible counsel to your clients, you must have a thorough understanding of the hair and how it can be damaged. It will be essential for you to be able to analyze the client's hair, determine what type of damage the hair has experienced, and properly prescribe corrective treatments. None of these tasks will be possible without your knowledge of the various properties of the hair and scalp.



ESSENTIAL EXPERIENCE

Discover the Structure of the Hair

ACTIVITY 1 Human Hair

- The scientific study of the hair and its diseases and care is called

- The human hair is identified by two parts. List and describe them.

ACTIVITY 2 Structures of the Hair Root

There are five main structures of the hair root. List and explain each one.

1. _____

5.
4.
3.
2.
1.

Learn About the Chemical Composition of Hair

ACTIVITY 1 The COHNS Elements

The major elements that make up hair are often referred to as the COHNS elements.

Complete the chart below:

Elements	Percentage in Normal Hair
C	
O	
H	
N	
S	

ACTIVITY 2 Side Bonds of the Cortex

Complete the chart. What are the three types of side bonds in the cortex? List a characteristic for each category provided.

Side Bond	Strength	Broken By	Reformed By

ACTIVITY 3 Myth or Facts About Hair Growth



Identify each statement as a myth or a fact. If the statement is a myth, rewrite it to make it a fact.

- —Hair with a round cross-section is straight, hair with an oval cross-section is wavy, and hair with a flattened cross-section is curly.

- —Gray hair is coarser and more resistant than pigmented hair.

- —Scalp massages are very stimulating to the scalp and can increase blood circulation, relax the nerves in the scalp, and tighten the scalp muscles.

- —Shaving, clipping, and cutting the hair on the head makes it grow back faster, darker, and coarser.


- —Anyone of any race, or mixed race, can have hair from straight to extremely curly. It is also true that within races individuals have hair with varying degrees of curl in different areas of the head.

• What form of treatment is being used to counter the hair loss?

• Was there an emotional impact associated with the hair loss?

• Have you had a client, relative, or friend who suffered from a form of alopecia?

In a group, discuss the following questions. Record the answer on the lines provided.

 **ACTIVITY 3** Group Discussion on Hair Loss

ACTIVITY 3 Characteristics of Scalp Disorders

Use the table to fill in the characteristics and examples of each scalp disorder. In the last column, note whether you can or cannot serve a client with the disorder listed.

Disorder	Characteristics	Salon Service Y-Yes/N-No
Pityriasis		
Pityriasis capitis simplex		
Pityriasis steatoides		
Tinea		
Tinea favosa		
Pedicularis capitis		
Furuncle		
Carbuncle		

ESSENTIAL REVIEW

ACTIVITY 1 Grouping Properties of the Hair and Scalp by Category

List the appropriate terms under each category.

alopecia areata	fine	pityriasis steatoides
anagen	follicle	porosity
androgenetic alopecia	fragilitas crinium	postpartum alopecia
arrector pili	hair root	scabies
bulb	hair stream	telogen
canities	hypertrichosis	texture
catagen	keratin	tinea
cortex cowllick	medulla	tinea capitis simplex
cuticle	Minoxidil	tinea favosa
dandruff	monilethrix	trichoptilosis
density	pediculosis capitis	trichorrhexis nodosa
dermal papilla	pityriasis	vellus hair
elasticity	pityriasis capitis	worhl
fenasteride	simplex	

Hair Distribution, Composition, and Structure

Hair Growth	_____
Hair Growth	_____
Hair Analysis	_____
Hair Analysis	_____
Hair Loss	_____
Hair Loss	_____
Hair Disorders	_____
Hair Disorders	_____
Scalp Disorders	_____
Scalp Disorders	_____

14. The _____ is the portion of the hair that is located below the surface of the scalp.
15. The small, cone-shaped area located at the base of the follicle is the _____.
16. Hair flowing in the same direction is known as _____.
17. Hair is composed of protein that grows from cells originating within the hair follicle. They mature in a process called _____.
18. The technical term for the most common type of hair loss is _____.
19. Hair protein is made up of long chains of _____, which are made up of elements.
20. A long chain of amino acids linked by peptide bonds is called a _____ chain.
21. A _____ bond is a physical side bond that is easily broken by water or heat.
22. The technical term for gray/unpigmented hair is _____.
23. An abnormal development of hair on areas of the body that normally bear only downy hair is known as _____ or hirsutism.
24. The technical term for split hair ends is _____.
25. The technical term for beaded hair is _____, which may be improved with scalp and hair treatments.
26. A _____ bond joins the sulfur atoms of two neighboring amino acids.
27. Pityriasis is the medical term for _____.
28. Two different types of melanin are _____ and pheomelanin.
29. Honeycomb ringworm is characterized by dry, sulfur-yellow, cuplike crusts on the scalp called _____.
30. A contagious condition caused by the head lice is _____.
31. A _____ is the result of an acute staphylococci infection and is larger than a furuncle.

D	F	R	A	G	I	L	I	T	A	S	E	I	B	A	C	S
N	P	I	T	Y	R	I	A	S	I	S	G	H	Y	L	Z	Y
O	E	L	C	I	L	L	O	F	R	I	A	H	Y	T	X	Z
B	E	R	T	V	Y	L	C	A	N	I	T	T	K	I	M	Z
E	Y	L	Z	B	R	T	L	A	R	E	I	I	R	Y	T	T
D	T	Q	O	C	H	L	I	T	N	C	G	H	N	F	T	L
I	I	Z	H	N	U	A	E	S	I	I	T	A	A	E	A	N
F	S	W	B	D	U	X	I	T	N	E	T	H	T	I	A	T
L	O	A	E	L	T	B	S	R	L	E	S	I	C	A	T	P
U	R	M	L	U	U	A	R	I	C	R	D	E	E	O	C	D
S	O	Y	R	U	L	B	N	A	I	U	P	R	O	S	N	M
I	P	E	L	E	T	O	R	A	C	O	T	R	I	E	X	Y
D	R	M	R	D	M	U	H	I	L	Y	R	I	G	A	P	R
Q	I	L	R	N	R	C	A	A	A	I	D	A	C	M	H	P
G	A	G	N	J	R	L	P	S	A	H	N	T	K	L	X	T
H	H	Z	L	R	T	R	R	H	T	A	M	W	L	B	E	K

CHAPTER 12 BASICS OF CHEMISTRY

ESSENTIAL OBJECTIVES

After studying this chapter and completing the Essential Companion components, you will be able to:

- LO1 List the difference between organic and inorganic chemistry.
- LO2 Categorize and give examples of different substances for each of the different states of matter: solid, liquid, and gas.
- LO3 Summarize, in your own words, oxidation–reduction (redox) reactions.
- LO4 Define the difference between pure substances and physical mixtures.
- LO5 Evaluate the differences among solutions, suspensions, and emulsions.
- LO6 Explain what pH is and how the pH scale works.

Why study

CHEMISTRY?

When you think about it, chemistry has an important role in every product you use, from the water you use to shampoo your hair, to the cosmetics applied when giving a facial, to the chemicals you apply to hair in styling or in chemical reformation. Many of the services you will provide actually change the hair, skin, and nails chemically as well as physically. Therefore, it is essential that you have a good working knowledge of chemistry in order to provide the safest and the most effective services to your clients.

Cosmetologists should study and have a thorough understanding of chemistry because:

- > Without an understanding of basic chemistry, you would not be able to use professional products effectively and safely.
- > Every product used in the salon and in cosmetology services contains some type of chemical.
- > With an understanding of chemistry, you will be able to troubleshoot and solve common problems you may encounter with chemical services.

ESSENTIAL EXPERIENCE

1

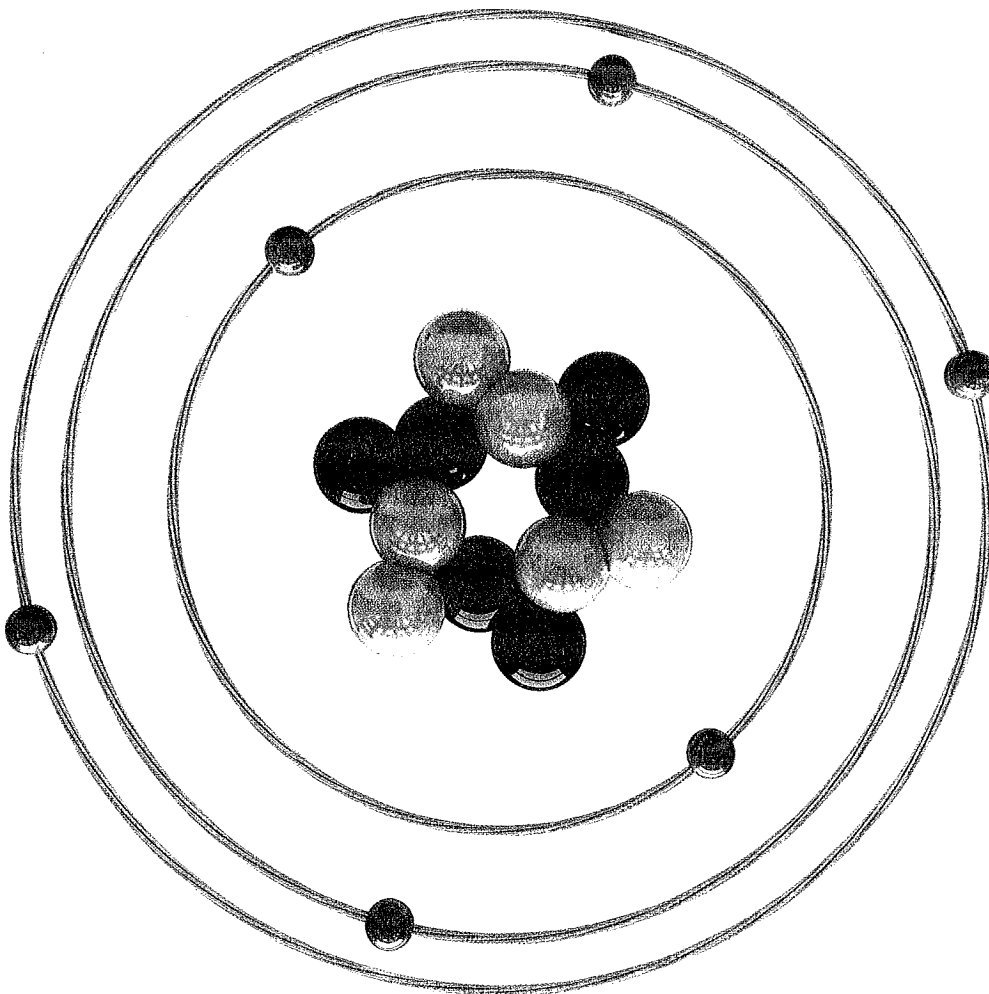
**Recognize How the Science
of Chemistry Influences
Cosmetology**

Use your knowledge of the differences between *organic* and *inorganic* substances to gather at least 10 items related to cosmetology. List your items in the space provided as either organic or inorganic.

Organic—O or Inorganic—I	Products

Label the following atom. Label the neutrons with a capital N, the protons with capital P, and the electrons with a capital E.

ACTIVITY 3 Atoms



ACTIVITY 4 Atoms and Molecules

Atoms and molecules are included within the bounds of matter. Complete the following statements.

1. _____ are subatomic particles with no charge.
2. The nucleus consists of _____ (positive charged).
3. A _____ is a chemical combination of two or more atoms in definite (fixed) proportions.
4. _____ contain two or more atoms of the same element.
5. _____ are a chemical combination of two or more atoms of different elements in definite proportions.

ACTIVITY 6 Physical and Chemical Changes Role Play

- Explain the chemical change that occurs during a hair color application/process.

- Your client expresses an interest in using hair color. Explain the chemical change; include oxidation–reduction (redox) reactions in your consultation.

ACTIVITY 7 Pure Substances and Physical Mixtures

Explain pure substances and physical mixtures.


ESSENTIAL EXPERIENCE 3

Understand Potential

Hydrogen (pH) and How It Affects Hair, Skin, and Nails

 ACTIVITY 1 pH

Explain pH and the pH scale.

ACTIVITY 3 Acids and Alkalis: Litmus Paper Testing 

Brush one piece of litmus paper with hydrogen peroxide and then brush the other half of the litmus paper with a hair color product. You will actually be able to see the oxidation process take place.

Next, obtain a variety of products and test their acidity and alkalinity using litmus paper. List the products you are testing below and write the results.

Litmus Paper Test Results	Product

Clue	Word
Solution that has a pH above 7	_____
Also known as bases; compounds that reacts with acids to form salts	_____
Basic unit of matter with a nucleus at the center	_____
Science that deals with the composition, structures, and properties of matter	_____
Rapid oxidation of a substance accompanied by the production of heat and light	_____
Chemical combination of two or more atoms of different elements	_____
The simplest form of chemical matter	_____

Q	X	Y	M	B	B	L	Y	R	M	J	N	B	N	R	B	M
V	P	Y	M	T	D	A	T	G	A	D	K	X	K	P	D	
C	L	P	Q	P	S	D	L	N	N	T	S	N	L	Q	L	
Y	O	I	L	E	G	U	O	K	Q	E	U	T	O	T	D	J
R	E	M	P	Q	L	I	S	D	A	R	M	X	E	D	L	G
T	L	L	B	O	T	B	L	P	F	L	I	E	N	R	T	N
S	B	R	M	U	P	R	I	A	E	D	I	U	L	Z	L	N
I	I	Z	L	O	S	H	C	A	N	O	S	J	E	T	R	
M	C	O	M	X	T	T	I	T	S	P	S	X	T	Z	K	Q
E	S	M	Q	I	A	A	I	L	M	I	W	I	B	P	W	T
H	I	D	O	N	X	O	Y	O	I	D	M	Y	O	R	Q	D
C	M	N	T	Y	N	X	C	Y	N	C	Z	M	N	N	W	N
A	L	K	A	L	I	N	E	S	O	L	U	T	I	O	N	Q
E	L	U	C	E	L	O	M	L	A	T	N	E	M	E	L	E
E	M	U	L	S	I	F	I	E	R	J	L	T	L	G	T	K

After determining the correct word from the clues provided, locate the words in the word search.

ACTIVITY 2 Word Search

4. Substances used to neutralize acids _____
5. The separation of an atom or molecule into positive and negative ions _____
7. Two or more atoms in definite (fixed) proportions _____
8. The subtraction of oxygen from or the addition of hydrogen to _____

ACTIVITY 4 Fill in the Blanks

Using the words provided, fill in the blanks below to form a thorough review of Chapter 12, Basics of Chemistry. Words or terms may be used more than once or not at all.

chemical	molecule	suspensions
emulsions	organic	volatile organic
inorganic	oxidizing	compounds
logarithm	physical	
miscible	solvents	

1. _____ means multiples of 10.
2. A _____ change refers to a change in the form of a substance, without the formation of a new substance.
3. A _____ change is when a new substance is formed.
4. _____ are substances that contain carbon and evaporate quickly and easily.
5. _____ are formed when two or more immiscible substances, such as oil and water, are united with the aid of a binder.
6. _____ chemistry is the branch of chemistry that deals with all substances that do not contain carbon.
7. _____ chemistry is the branch of chemistry that deals with all substances in which carbon is present.
8. _____ agents are substances that readily release oxygen.
9. _____ liquids are mutually soluble, meaning they can be mixed into stable solutions.
10. _____ are any substances that are able to dissolve another substance.
11. A _____ is an unstable mixture of undissolved particles in liquid.
12. Two or more atoms that are joined together chemically form a _____.

CHAPTER 13 BASICS OF ELECTRICITY

ESSENTIAL OBJECTIVES

After studying this chapter and completing the Essential Companion components, you will be able to:

- LO 1 Identify the nature of electricity and the two types of electric current.
- LO 2 List electrical measurements.
- LO 3 Understand the principles of electrical equipment safety.
- LO 4 Examine the main electric modalities used in cosmetology.
- LO 5 Outline other types of electrical equipment that cosmetologists use and describe how to use them.
- LO 6 Explain the electromagnetic spectrum, visible spectrum of light, and invisible light.
- LO 7 Compare the types of light therapy and their benefits.

why study

BASICS OF ELECTRICITY?

Electricity is essential for controlling and maintaining the professional environment in every professional establishment. It is responsible for such things as lighting, ventilation, temperature, and possibly even the hot water you will use. Electricity is critical in the salon for use with blowdryers, curling irons, lotion heaters, wax heaters, facial equipment, cash registers, telephones, computers, nail drills, and much more. While it is not necessary for you to become an electrical engineer, it is important that you have a working knowledge of how electricity is created and how it can be used safely in the salon.

Cosmetologists should study and have a thorough understanding of the basics of electricity because:

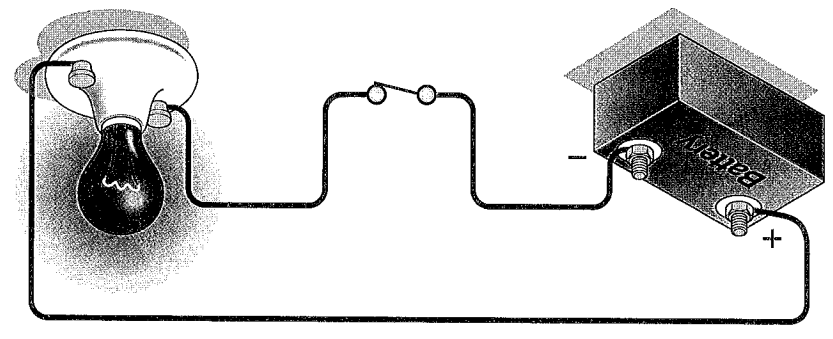
- > Cosmetologists use and rely on a variety of electrical appliances. Knowing what electricity is and how it works will allow you to use it wisely and safely.
- > A basic understanding of electricity will enable you to properly use and care for your equipment and tools.
- > Electricity and its use impact other aspects of the salon environment, such as lighting and the temperature of styling irons. Therefore, it impacts the services you offer your clients.

ACTIVITY 3 Electrical Measurements Matching Exercise

Using the electrical measurements listed, match each with its definition or identifying term.

— Volt	1. Measurement of how much electric energy is being used in one second
— Amp	2. One-thousandth of an ampere
— Milliampere	3. The unit of measurement for the amount of current running through a wire
— Ohm	4. Unit for measuring the pressure that forces the electric current forward
— Watt	5. The electricity in your house is measured in this manner
— Kilowatt	6. This unit measures the resistance of an electric current.

Comparisons	
Direct Current	Alternating Current



ACTIVITY 2 Types of Electric Current

- List the two types of electric current.
- 1.
- 2.
- Label the differences between direct current and alternating current by drawing arrows that show the direction of the current. Then, complete the chart below.

Across

Word

Clue

4. One-thousandth of an ampere

7. Any substance that conducts electricity

8. A rapid and interrupted current, flowing first in one direction and then in the opposite direction

10. Also known as a nonconductor; a substance that does not easily transmit electricity

Down

Word

Clue

1. A constant, even-flowing current that travels in one direction only

2. The unit that measures the resistance of an electric current

3. The unit that measures the strength of an electric current

5. The flow of electricity along a conductor

6. A measurement of how much electric energy is being used in one second

9. The unit that measures the pressure or force that pushes the flow of electrons forward through a conductor

ESSENTIAL EXPERIENCE 3

Understand Electrotherapy

ACTIVITY 1 What Are Modalities?

ACTIVITY 2 Types of Modalities

Complete the following chart:

Type of Modalities	Purpose	Benefit

ACTIVITY 3 Galvanic Current

There are three types of galvanic currents; list and describe them in the space provided below.

1. _____
2. _____
3. _____

Explain Light Energy and Light Therapy

ACTIVITY 1 Light Energy

Write the descriptions of electromagnetic spectrum, visible spectrum of light, and invisible light.

Description	Light
	Electromagnetic Spectrum
	Visible Spectrum of Light
	Invisible Light

ESSENTIAL REVIEW

ACTIVITY 1 Vocabulary Review

Using the following words, fill in the blanks below. Words or terms may be used more than once or not at all.

Ampere	Anaphoresis	Anode
Cathode	Circuit Breaker	Conductor
Direct current	Desincrustation	Electricity
Electrode	Fuse	Galvanic
Heating cap	Infrared	Infrared rays
Kilowatt	Modalities	Ohm
Polarity	Rectifier	Tesla high frequency

1. _____ is a form of energy that produces magnetic, chemical, and thermal effects.
2. A _____ is a substance that permits electrical current to pass through it.
3. A positive electrode is called a/an _____.
4. A negative electrode is called a/an _____.
5. A _____ is a safety device that prevents excessive current from passing through.
6. An amp or _____ is the unit of measurement for the amount of current running through a wire.
7. An _____ is an applicator that directs the electric current from the machine to the client's skin.
8. _____ is the process of forcing liquids into the tissues from the negative toward the positive pole.
9. Do not use the negative _____ current on skin with broken capillaries, acne, or on a client with high blood pressure.
10. A switch that automatically interrupts or shuts off an electric circuit at the first indication of overload is a _____.
11. _____ rays make up 60% of natural sunlight.
12. The negative or positive state of electric current is _____.
13. The process used to soften and liquefy grease deposits in the hair follicles and pores is _____.
14. The _____ current is a thermal or heat-producing current with a high rate of oscillation or vibration.
15. Currents used in electrical facial and scalp treatments is called _____.

Clue	Across
4. Measurement of the distance between two wavelengths.	_____
6. Apparatus that changes direct current to alternating current.	_____
8. Electrode of an electrotherapy device that is used on the area to be treated.	_____
9. opposite pole from the active electrode.	_____
10. Light at either end of the visible spectrum of light that is invisible to the naked eye.	_____
11. The path of negative and positive electric currents moving from the generating source through the conductors and back to the generating source.	_____
12. A medical device that uses multiple colors and wavelengths (broad spectrum) of forced light to treat spider veins, hyperpigmentation, rosacea, and redness.	_____
14. A color component within the skin, such as blood or melanin.	_____
16. Process of fusing an acidic (positive) product into deeper tissues using galvanic current from the positive pole toward the negative pole.	_____
17. Distance between successive peaks of electromagnetic waves.	_____
18. Also known as phototherapy; the application of light rays to the skin for the treatment of wrinkles, capillaries, pigmentation, or hair removal.	_____
19. Process that turns the light from a laser device into heat.	_____
Clue	Word
1. Acronym for light amplification stimulation emission of radiation.	_____
2. Also known as insulator; a material that does not transmit electricity.	_____
3. An extremely low level of electricity that mirrors the body's natural electrical impulses.	_____
5. Abbreviated MA, $\frac{100}{1}$ of an ampere.	_____
7. Abbreviated AC.	_____
13. Completes an electric circuit and carries the current safely.	_____
15. Substances that speed up chemical reactions.	_____
20. Abbreviated O; unit that measures the resistance of electric current.	_____

PRINCIPLES OF HAIR DESIGN



ESSENTIAL OBJECTIVES

After studying this chapter and completing the Essential Companion components, you will be able to:

- L01 Describe sources of hair design inspiration.
- L02 List the five elements of hair design and how they relate to hairstyling.
- L03 Explain the five principles of hair design and recognize their specific contribution to a hairstyle.
- L04 Understand the influence of hair type and texture on design.
- L05 Identify the seven different facial shapes and design a beneficial hairstyle for each.
- L06 Explain two design considerations for men.

PRINCIPLES OF HAIR DESIGN? why study

The answer is as simple as cooking! If you have ever created a masterpiece in the kitchen or even observed a great cook like your mother or grandmother in action, you know that it takes a great deal more than just knowing what ingredients to use. You must know exactly what quantity of each ingredient is needed. You must know at which point each ingredient is added. You need to know things such as cooking temperatures and how to use special kitchen tools, such as knives or wire whisks. The exact same principles apply in hairstyling. You must attain a thorough knowledge of all the tools and implements required to create a great design. In addition, you must know the principles of design and also understand how the client's face shape and features impact the chosen design. Once you have gained a solid working knowledge of all these parts, pieces, and principles, you will be able to provide quality services to each and every client.

As a cosmetologist, you should study and have a thorough understanding of the principles of hair design for the following reasons:

- > You will be better able to understand why a particular hairstyle will or will not be the best choice for a client.
- > The principles of design will serve as helpful guidelines to assist you in achieving your styling vision.
- > You will be able to create haircuts and styles designed to help clients camouflage areas of concern while emphasizing their most attractive areas.

ESSENTIAL EXPERIENCE 1

Discover the Philosophy of Design

ACTIVITY 1 Discuss What Sparks Your Creativity

With a group, or individually, discuss and record the answers to the questions in the space provided.

- List the designers who motivate you.

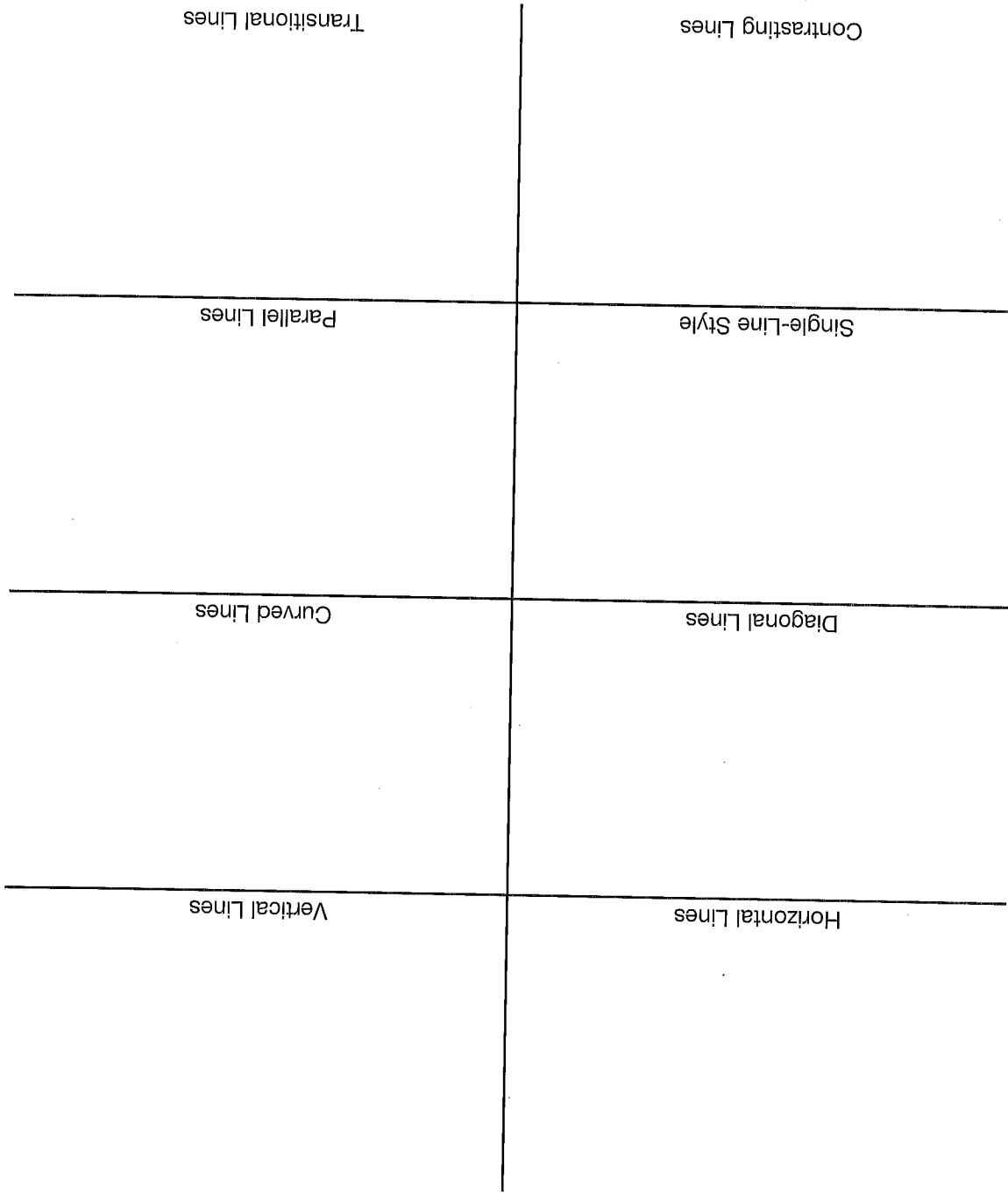
- Do you favor hair designs that are conservative, retro, or trendy with a little edginess?

ACTIVITY 2 Planning Hairstyles

Choose a friend, relative, coworker, classmate, or someone else you know. Design a plan for a hairstyle that works well for the person's face shape and body type. Explain your plan and the details in the space provided. Then, create a collage of your vision on a separate piece of paper. Share your ideas and your collage with the class.

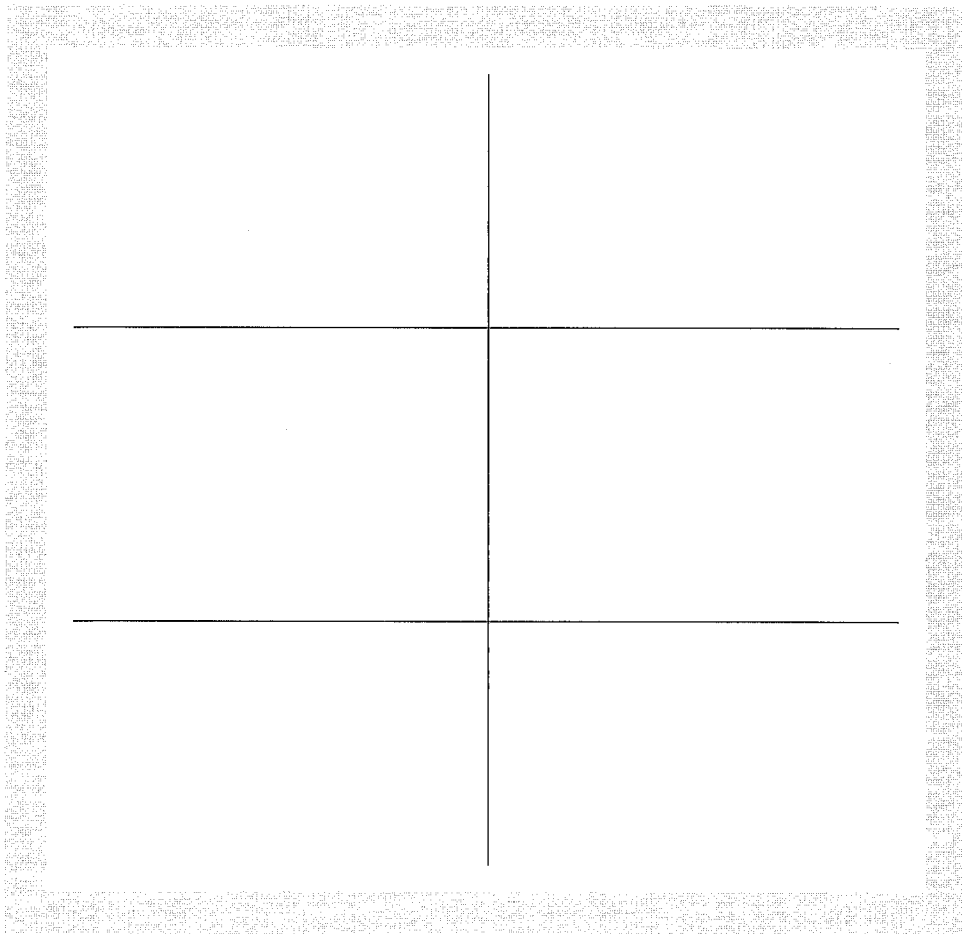
Depict the following different lines by cutting pictures out of magazines or found online, and paste them in the space provided below. Using a colored pen, emphasize the type of line the style depicts. Be creative and use a variety of hairstyles.

ACTIVITY 2 Line



ACTIVITY 4 Design Texture

Search your favorite magazine or online for pictures that depict various design textures created from the use of styling tools. Paste them in the spaces provided below or on a separate piece of paper. Write a brief explanation of the look created by the styling tool.





ESSENTIAL EXPERIENCE

Understand the Principles of Hair Design

ACTIVITY 1 Art and Design Principles

List the five principles of art and design. Explain how each can be used as a guide in creating a flattering hairstyle.

1. _____
2. _____
3. _____
4. _____
5. _____

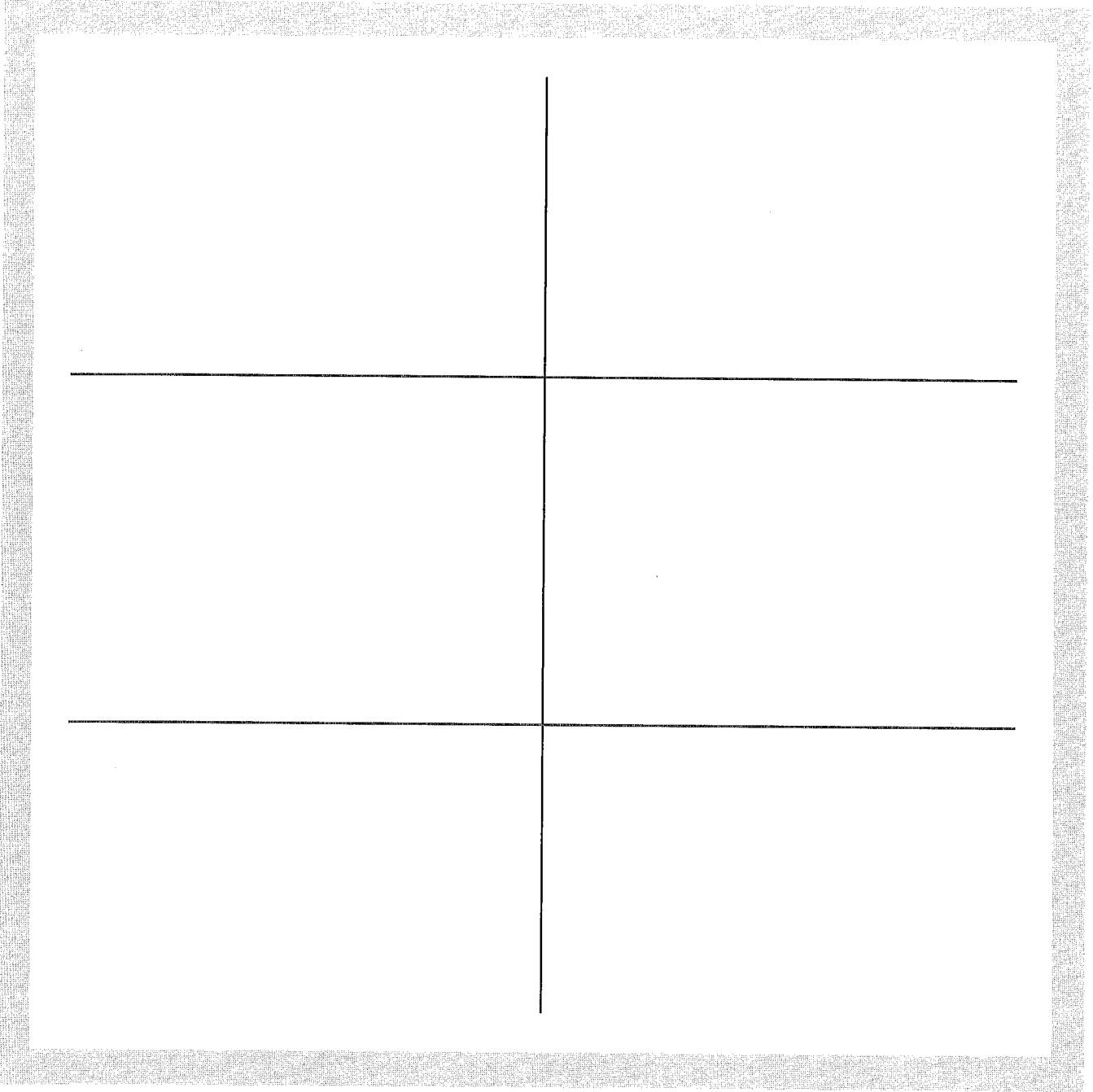
ACTIVITY 2 Proportion

Have you ever seen something that is clearly out of proportion with its surroundings? Using poster board or construction paper, paste pictures from magazines or found online that depict the following proportional relationships.

- Someone whose hairstyle is much too large for their petite body.
- Someone whose hairstyle is much too small for their larger body frame.
- Someone whose hairstyle reflects classic proportions.

ACTIVITY 4 Rhythm

When you think of someone having great rhythm, you are likely visualizing how that person moves on the dance floor. Rhythm in a hairstyle is similar; it means movement. Cut out six different pictures of hairstyles from magazines or found online, and paste them below. Indicate whether the style has a fast or slow rhythm.




ESSENTIAL EXPERIENCE 4

Recognize the Influence of Hair Type and Texture on Hairstyle

ACTIVITY Hair Texture and Density

The relationship between hair texture and density are two important factors in choosing a hairstyle. Having a thorough knowledge of the suggestions to follow with each type of hair will assist you in selecting an appropriate hairstyle for your client. Complete the following chart:

Suggestions for clients	Type of Hair
	Straight
	Wavy
	Curly
	Very Curly
	Extremely Curly

 **ACTIVITY 2** Flattering Hairstyles for Facial Structure

Describe the appropriate hairstyle for each of the face shapes listed in the chart in activity 1. For the photos you found, explain why the hairstyle works or does not work. Did it highlight or camouflage the facial features?

Oval: _____

Round: _____

Square: _____

Triangular: _____

Oblong: _____

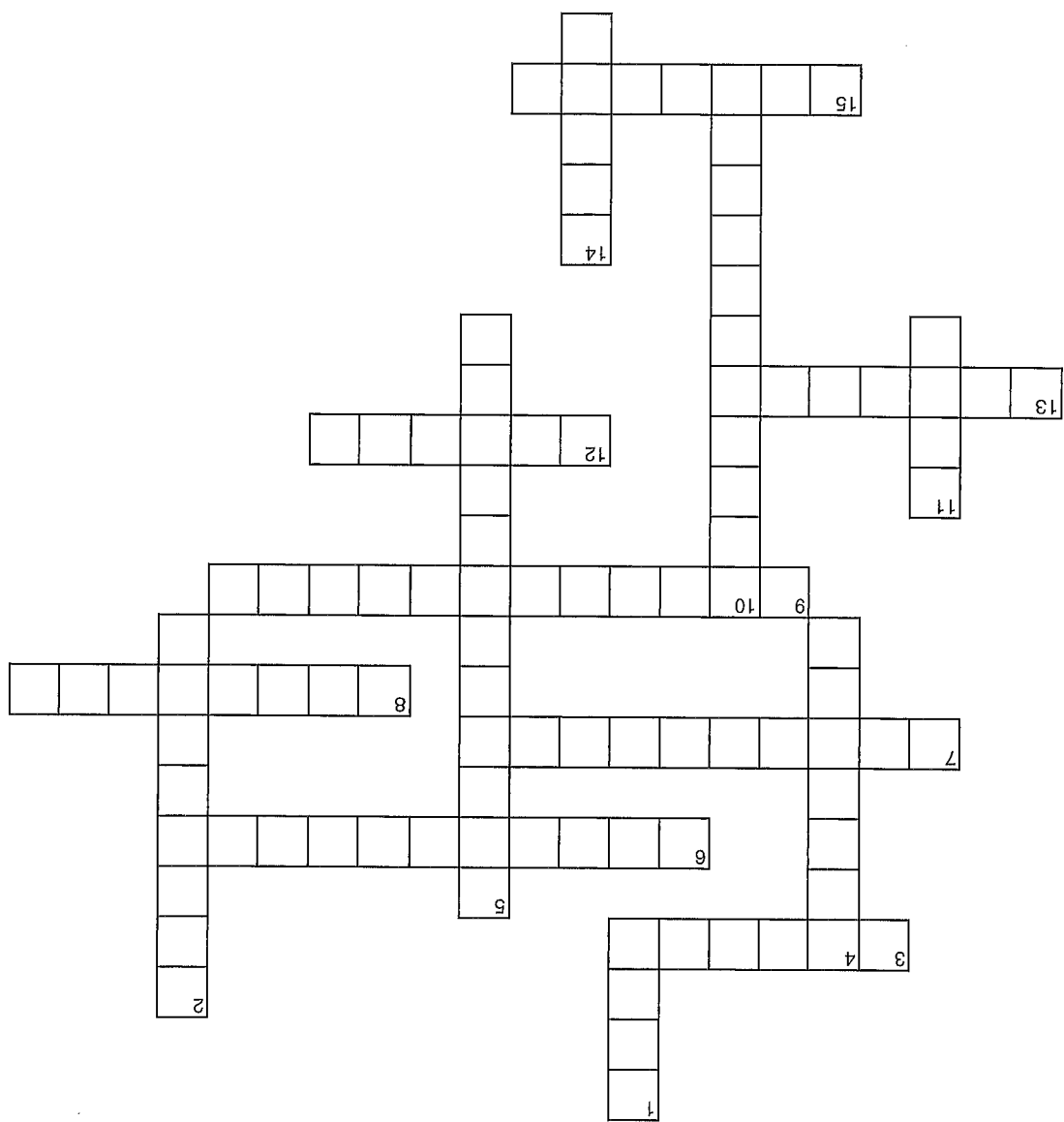
Diamond: _____

Heart (Inverted Triangle): _____

ACTIVITY 5 Crossword Puzzle—Review of Hair Design



Terminology



Across
Word

Clue

- 3. Regular, recurrent pattern of movement
- 6. Horizontal and vertical lines that meet at a 90-degree angle
- 7. Comparative relationship between parts
- 8. Place in a hairstyle where the eye is drawn first
- 9. Unequal proportions designed to balance facial features
- 12. Curving outward
- 13. Curving inward
- 15. Establishing equal or appropriate proportions to create symmetry

ACTIVITY Explain Two Design Considerations for Men

1. _____
2. _____

ESSENTIAL REVIEW

Complete the following multiple-choice questions by circling the correct answer to each statement.

1. The outline or silhouette of a hairstyle is known as the _____.
a) space
b) line
c) form
d) design
2. The shape, design, and movement of the hairstyle is created by the _____.
a) space
b) lines
c) form
d) design
3. The area surrounding the form or the area the hairstyle occupies is called _____.
a) space
b) lines
c) form
d) design
4. Lines that are parallel to the floor are known as _____.
a) vertical
b) diagonal
c) horizontal
d) curved
5. Lines used to soften a design are _____.
a) vertical
b) diagonal
c) horizontal
d) transitional
6. Lines used to make a hairstyle appear longer and add height are _____.
a) vertical
b) diagonal
c) horizontal
d) curved
7. Lines positioned between horizontal and vertical, which are used to create interest, are _____.
a) vertical
b) diagonal
c) horizontal
d) curved

18. _____ wave patterns accent the face and are particularly useful when you wish to narrow a round head shape.

- a) Rough
- b) Busy
- c) Smooth
- d) Numerous

19. Establishing equal or appropriate proportions to create symmetry is known as _____.

- a) balance
- b) harmony
- c) rhythm
- d) emphasis

20. The pattern that creates movement in a hairstyle is known as _____.

- a) balance
- b) harmony
- c) rhythm
- d) emphasis

21. _____ is considered the most important of the principles of hair design.

- a) Balance
- b) Harmony
- c) Rhythm
- d) Emphasis

22. The _____ in a hairstyle is the place the eyes see first.

- a) balance
- b) harmony
- c) rhythm
- d) emphasis

23. Generally, the ideal face shape is said to be the _____ shape.

- a) square
- b) round
- c) oval
- d) pear

24. The face is divided into _____ zones.

- a) one
- b) two
- c) three
- d) four

25. The aim of creating the illusion of width in the forehead would be best for the _____ face shape.

- a) round
- b) triangular
- c) oblong
- d) diamond

26. The aim of reducing the width across the cheekbone line is best for the _____ face shape.

- a) round
- b) triangular
- c) oblong
- d) diamond

27. The aim of making the face appear shorter and wider is best for the _____ face shape.

- a) round
- b) pear
- c) oblong
- d) diamond

38. The _____ part is used to direct hair across the top of the head.
- a) triangular
 - b) diagonal
 - c) side
 - d) center
39. The _____ part is considered to be the classic part and is usually used for an oval face, but can be used to create the illusion of oval for a round or wide face.
- a) curved
 - b) side
 - c) center
 - d) diagonal
40. The _____ part is used for a receding hairline or high forehead.
- a) curved
 - b) side
 - c) center
 - d) diagonal

SCALP CARE, SHAMPOOING, & CONDITIONING



ESSENTIAL OBJECTIVES

After completing this chapter and completing the Essential Companion components, you will be able to:

- LO1 Identify the two most basic requirements for scalp care.
- LO2 Demonstrate a scalp massage during a shampoo service.
- LO3 Examine the differences and similarities of treating scalp and hair that are dry, oily, and/or affected by dandruff.
- LO4 Describe how hair brushing contributes to a healthy scalp.
- LO5 Evaluate the uses and benefits of the various types of shampoo.
- LO6 Evaluate the uses and benefits of the various types of conditioner.
- LO7 Demonstrate appropriate draping for a basic shampooing and conditioning, and draping for a chemical service.
- LO8 Identify the three-part procedure of a hair care service and explain why it is useful.

SCALP CARE, SHAMPOOING, AND CONDITIONING?

Just because you have been shampooing and conditioning your own hair for a number of years does not mean that you have the appropriate knowledge to deliver a professional shampoo and conditioning service to your clients. It is necessary to understand that the procedures and products that you have used at home are likely not professional grade and may not be client-oriented. In fact, it is not uncommon for people to choose their shampoo or conditioning treatment based on its fragrance or because talented marketing managers suggest it is beneficial for their hair. Your ability to provide a thorough and pleasing shampoo to your clients is essential. It is generally the first service you provide a client, and it allows you to begin building a positive client relationship. More importantly, the shampoo service is the most repeated service you will provide to your clients. In most cases, a thorough shampoo will precede a haircut, a style, a color treatment, and any chemical reformation. You can be sure that how well you perform the shampoo service will greatly influence the client's perception of how well you will perform other services they desire. And remember, when you give a good shampoo with a relaxing scalp massage, you lay the groundwork for selling the client many more services, both today and in the future!

ESSENTIAL EXPERIENCE

Safely and Effectively Use Massage in Scalp Care



ACTIVITY 1 List the Two Basic Requirements for a Healthy Scalp

1. _____
2. _____

Explain the importance and benefits of both.

ACTIVITY 2 Scalp Massage

In your own words, list the steps to follow when giving a scalp massage.

Learn the Benefits

of Proper Hair Brushing

ACTIVITY 1 When Should Brushing Be Avoided?

- _____
- _____
- _____
- _____
- _____
- _____

ACTIVITY 2 Types of Brushes

Complete the following chart based on your knowledge and the chapter material:

Purpose	Description	Type of Bristle
		Natural Nylon Rubber interior or plastic vent

ESSENTIAL EXPERIENCE 3

Provide a Proper and Effective Shampoo Service

ACTIVITY 1 Selecting the Proper Shampoo

Conduct a research project on the various shampoo products used in your school or at home. Use your smart phone, tablet, or computer to complete the research. Use the following chart to list each type of shampoo, the type of hair each is created for, and the ingredients found in each one. After you have collected the data, make a determination regarding any common ingredients in the products.

Product Name	Recommended for Which Hair Type	Ingredients	pH Level

*Tip: Focus on what you learned in Chapter 12, Basics of Chemistry. Use litmus paper and conduct a test on each product to determine the pH level (level of acidity and alkalinity).

ACTIVITY 2 Shampoo Ingredients

After identifying the common ingredients, write a brief explanation of why you believe these ingredients are used in so many shampoo products.




ACTIVITY What are the Basic Types of Conditioner?

Using the swatches from the shampoo activity (Essential Experience 3, Activity 3: Shampoo Hair Swatches), divide each swatch in half and condition one half. Report on the results after half the swatch has been reconditioned in the last column of the table below. Tape the swatches onto a poster board to display your findings from Essential Experience 3, Activity 3 and this new assignment, and be sure to include the completed table below in the final presentation.


Swatch Type	Shampoo Used	Results	Condition Swatch	Results
Normal	[Repeat from Activity 3 on Pg. 220.]	[Repeat from Activity 3 on Pg. 220.]	[Post swatches onto poster board]	
Color-treated				
Relaxed				
Permed				

Make recommendations for the ideal conditioner for each hair type and explain why others are not appropriate.

Understand the Benefits of the Three-Part Procedure

 **ACTIVITY 1** The Three-Part Procedure

Explain the three-part procedure and describe the benefit of using the three-part procedure.

 **ACTIVITY 2** Arrange the Pre-Service Steps

Number the following preservice steps in the order they should occur:

____ Review schedule.

____ Wore gloves.

____ Greet client.

____ Clean tools.

____ Perform consultation.

____ Rinse and dry tools.

____ Eliminate distractions.

____ Immerse implements in EPA-registered disinfectant.

____ Clean and disinfect station.

____ Remove implements.

____ Escort client to workstation.

BASIC SHAMPOOING AND CONDITIONING PROCEDURE ASSESSMENT

Performance Assessed	1	2	3	4	Improvement Plan
Showed client to shampoo chair					
Made client comfortable					
Draped client for shampoo					
Removed hair ornaments					
Removed jewelry and glasses					
Examined scalp					
Brushed hair thoroughly					
Made sure client's neck fit properly into neck rest					
Adjusted volume of water and water temperature					
Saturated hair with warm water					
Applied shampoo and lathered					

Improvement Plan	4	3	2	1	Performance Assessed
Shampooed and rinsed again if needed					Gently squeezed excess water from hair
Applied conditioner throughout the hair					Gently combed conditioner through; distributed it with a wide-tooth comb
Massaged scalp, if applicable					Left conditioner on for recommended time
Placed plastic cap on client's head if a deep-conditioning treatment was used					Rinsed hair thoroughly
Removed excess moisture from hair at shampoo bowl					Towel-dried hair
Wiped excess moisture from around face and ears with end of towel					Lifted the towel

SCALP MASSAGE PROCEDURE ASSESSMENT

Performance Assessed	1	2	3	4
Cupped client's chin in left hand				
Placed right hand at base of skull				
Rotated head gently				
Reversed hand positions and repeated steps above				
Placed fingertips on each side of head				
Slid hands firmly upward				
Spread fingertips until they met at top of head				
Repeated four times				
Placed fingertips on each side of head 1 inch (2.5 centimeters) back				
Slid hands firmly upward				
Spread fingertips until they met at top of head				

Improvement Plan

ESSENTIAL REVIEW

Using the following words, fill in the blanks to form a thorough review of Chapter 15, Scalp Care, Shampooing, and Conditioning. Words or terms may be used more than once or not at all.

0 to 6.9	H ₂ O	powder
4.5 to 5.5	H ₂ O ₂	protein
7.1 or higher	hard	scales
acid	humectants	shampooing
aststringent lotions	hydrogen	shampoos
blood	ingredients	skin
brittle	medicated	soft
chemical service	natural	stimulating
citric acid	nonstripping	tangles
condition	oily	temperature
dry	polymers	volume

1. An important preliminary step for a variety of hair services is _____.
2. To be effective, a shampoo must remove all dirt, oils, cosmetics, and _____ debris without adversely affecting either the scalp or hair.
3. _____ hair should be shampooed more often than other types.
4. Hair can usually be characterized as oily, _____, normal, or chemically treated.
5. Rainwater or water that has been chemically treated is known as _____ water.
6. _____ water contains certain minerals that lessen the ability of the shampoo to lather readily.
7. _____ bristles are recommended for hair brushing.
8. Select shampoo according to the _____ of the client's hair.
9. A high-pH shampoo can leave the hair dry and _____.
10. A cosmetologist should not brush the hair prior to giving a _____.
11. Brushing stimulates the _____ circulation to the scalp and helps remove dust, dirt, and hair spray buildup from the hair.
12. Moisturizing treatments soften and loosen _____ from the scalp.

ESSENTIAL DISCOVERIES AND ACCOMPLISHMENTS

In the space provided, jot down some notes about what concepts of this chapter were hardest for you to understand or remember. Imagine finding yourself suddenly in the role of *teacher* and consider what you would tell your *students* about these concepts. Share your Essential Discoveries with some of the other students in your class and ask if they are helpful to them. You may want to revise your discoveries based on any good ideas shared by your peers.

Discoveries:

Accomplishments:

List at least three things you have accomplished since your last entry that relate to your career goals.

ESSENTIAL REFLECTIONS

Have you ever had a great haircut or even a bad haircut? Share your experience. Remember the feeling you had when you left the salon as you will want to reciprocate the feeling of a great haircut for your own clients as well as draw on your past disappointments to make sure that a client never leaves unsatisfied.

ESSENTIAL EXPERIENCE 1

Understand the Basic Principles of Haircutting



ACTIVITY 1 Reference Points

What are reference points? What is their function?

Define the standard reference points.

1.

2.

3.

4.

Procedure	Paste Picture Here
Procedure	Paste Picture Here
Procedure	Paste Picture Here

As a professional stylist, you will have numerous clients who bring in photographs of hairstyles as references. Therefore, learning how to evaluate a style and determine how it was achieved will be of great benefit to you. With that in mind, look through various magazines and select three particular cuts that appeal to you. Paste them on the chart below in the left column. In the right column, diagram and/or explain the techniques, angles, and elevations you would use to create the haircut and style.

ACTIVITY 3 Style Analysis for Techniques, Angles, and Elevations


Line: _____

Section: _____

Angle: _____

ACTIVITY 2 Define Lines, Sections, and Angles

Conduct an Effective Client Consultation for Haircutting

ACTIVITY 1 Tips for Haircutting Consultation 

Always begin a great haircut with a great consultation. List the important points you must discuss with your client during a haircutting consultation.

•

•

•

•

•

•

•

•

•

•

•

•

•

•

•

•

•

•

•

•

•

•

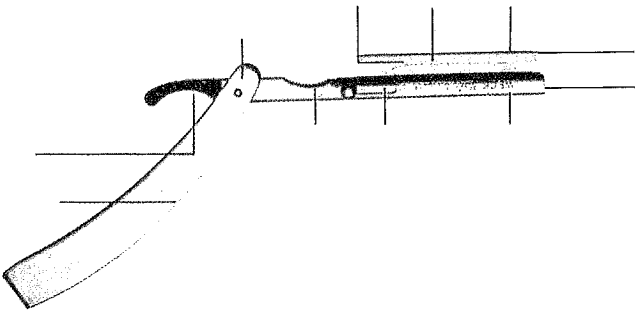
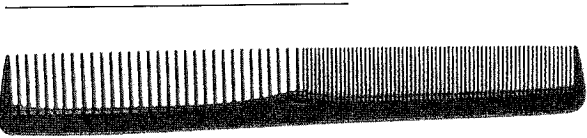
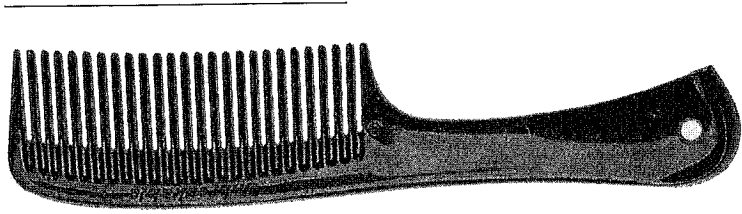
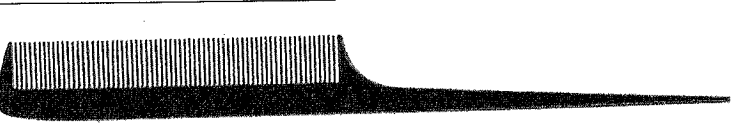
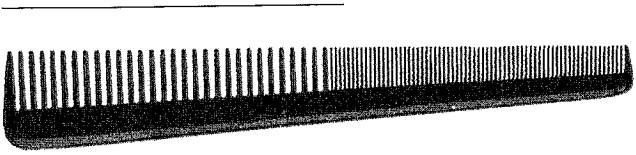
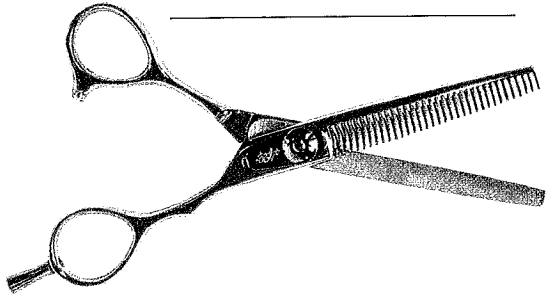
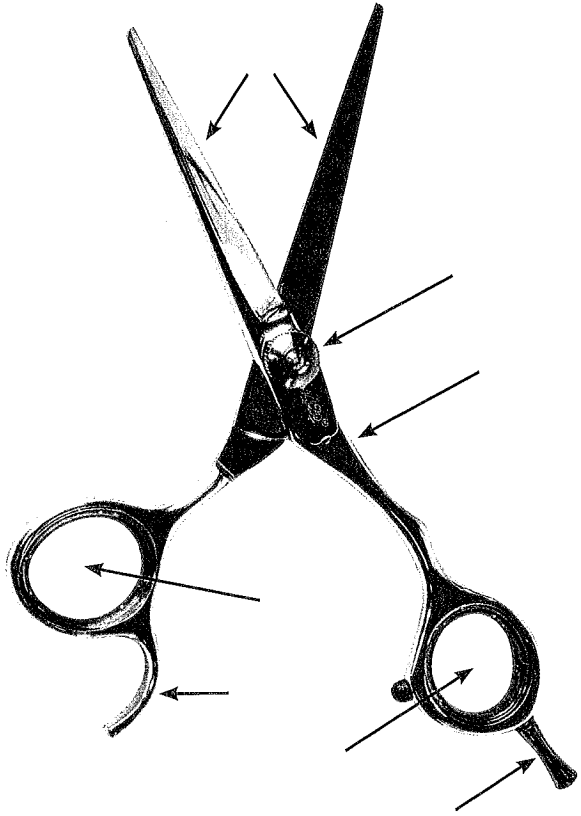
ACTIVITY 2 Role-play 

In a pair, demonstrate a haircut consultation with a new client.

ACTIVITY 2 Identify the Haircutting Tools

Using the photos found below, label each tool using the following terms (some terms may be used more than once).

- | | | | |
|--------------|--------------------|-------------|-----------------|
| back | finger hole | pivot | thinning shears |
| barber comb | finger tang | pivot screw | thumb hole |
| blade | haircutting shears | point | wide-tooth comb |
| bumper | handle | shank | |
| cutting edge | head | tang | |
| edge | heel | tall comb | |



Cut Hair Using Basic Haircutting Techniques

ACTIVITY 1 name and Explain the Four Basic Haircuts.

1.

2.

3.

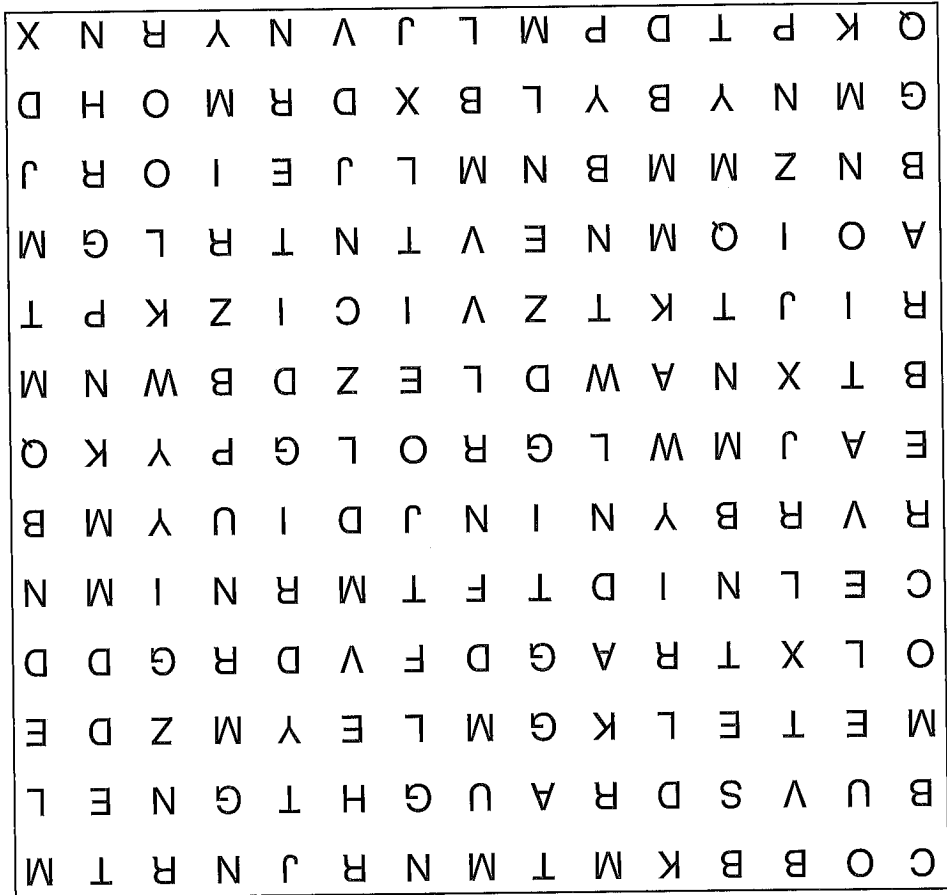
4.

ACTIVITY 4 Haircutting Tools and Terminology

Word Search

After determining the correct word from the clues provided, locate the words in the word search puzzle.

Clue	Word
Used for close tapers	_____
Technique using diagonal line to create angles	_____
A clipper attachment that allows you to cut all the hair evenly to the exact length	_____
Used in comparison to elevation	_____
Silthering	_____
The degree at which a subsection of hair is held from the head when cutting	_____
Subsection of hair that determines the length the hair will be cut	_____
Angle at which fingers are held when cutting the line that creates the end shape	_____
Lines that are parallel to the horizon	_____



1. _____

2. _____

3. _____

4. _____

5. _____


6. _____

List and explain the six different texturizing techniques that are performed with shears.

What is texturizing?

 **ACTIVITY 3** Texturizing

Using a mannequin, practice cutting two of the five types of bangs (fringes). If you perform this assignment at home rather than in class, be sure to take photos before, during, and after, and show the finished results to your instructor.

 **ACTIVITY 2** Practice Session!



ESSENTIAL EXPERIENCE

Effectively Use Clippers and Trimmers and Trimmers

ACTIVITY 1 What are Clippers and Their Functions?

ACTIVITY 2 List a Variety of Tools Needed when Clipper Cutting.

1.

2.

3.

4.

5.

ACTIVITY 3 Explain the Basic Clipper Techniques.

1. Clipper-over-Comb:

2. Clipper Cutting with Attachments:

ACTIVITY 4 Effectively Use Trimmers Explain the basic trimmer techniques for the following areas.

• Around the ears:

• Neckline:

Improvement Plan	4	3	2	1	Performance Assessed
					Placed a cape over the neck strip and fastened
					Folded the neck strip down over the cape
					Detangled the hair with a wide-tooth comb
					Parted the hair in the center, from the front hairline through to the nape
					Created two diagonal forward partings from the occipital to behind the ear
					Created a 1/2 inch (1.3 centimeters) wide subsection
					Angled the head forward slightly
					Began in the center and used the fine teeth to comb the hair to its natural fall.
					Cut first line parallel to the diagonal forward parting, at 0 degrees' elevation
					Repeated on opposite side
					Started cut from the outer corner to the center
					Created a slight arc-shaped line

Improvement Plan	1	2	3	4	Performance Assessed
					<p>Took subsection from horseshoe above the crown to the front hairline</p> <p>Combed the hair down in a natural fall and cut length</p> <p>Made any needed adjustments</p> <p>Released the remaining hair in the section and combed to natural fall</p> <p>Followed the guide and cut at 0 degrees elevation</p> <p>Blow-dried hair straight and smoothed the hair. Sectioned hair in the same way it was cut, using a classic styling brush</p> <p>After drying hair, had client stand and checked line in mirror</p> <p>Combed the hair to natural fall and cleaned up the bob line, without cutting the line shorter.</p>

Improvement Plan	4	3	2	1	Performance Assessed
					Continued taking pivoting diagonal forward subsections using the traveling guide
					Held fingers at 45 degrees, elevated and cut parallel to the parting
					Reached the last subsection, stayed parallel to the diagonal forward parting; continued to elevate at 45 degrees following the traveling guide
					Repeat the same steps and technique on the opposite side
					Cross-checked the balance from the outer edges on both the sides
					Began the next section, took a diagonal forward parting from above the occipital bone extending to the top of each ear
					Subsectioned each side and cut as before, using pivoting diagonal forward subsections
					Combed the hair parallel to the parting and used a small piece of the length of hair cut from the first section as a guide, and cut a stationary guide at a 45-degree elevation
					Repeated the same steps on the opposite side
					Checked for visual balance
					Created horseshoe section taken from just below the crown to the recession area on both the sides
					Subdivided and cut using traveling diagonal forward subsections combed to natural fall and then elevated to 45 degrees and cut parallel to the horseshoe parting

UNIFORM-LAYERED HAIRCUT PROCEDURE ASSESSMENT
(RIGHT- OR LEFT-HANDED)

Performance Assessed	1	2	3	4
Began at the natural side part and overdirected the section back to a stationary guide at the radial section				
Detailed the perimeter by starting at the nape and used points of shears for softness				
Cleaned up line at the perimeter on the sides				

Improvement Plan

Performance Assessed	1	2	3	4
Draped client for shampoo				
Shampooed and conditioned the hair				
Escorted client back to styling chair				
Secured a neck strip around client's neck				
Placed cape over neck strip and fastened				
Folded neck strip down over the cape				
Detangled hair with wide-tooth comb				

Improvement Plan

Improvement Plan	4	3	2	1	Performance Assessed
					Cross-checked horizontally on every fourth section. Kept line round and followed the head shape
					Continued taking slight diagonal forward subsections, elevating at 90 degrees, and cutting parallel to the parting for the subsection until back of the ear was reached
					Switched hand position and repeated on the opposite side
					Released the lower portion of the horseshoe and cut palm-to-palm below the horseshoe on both the sides
					Continued taking slight diagonal forward subsections, elevating at 90 degrees, and cutting parallel to the parting
					Followed the guide until you had completed the side and then repeated on the opposite side
					Released the horseshoe section
					Then took a radial section from above the crown to the top of each ear separating the hair from front to back
					Switched hand position and cut above your fingers for the remainder of the haircut
					Took pivoting pie shape sections from below the radial section. Followed guide, elevated the hair at 90 degrees, and cut until both sides were completed
					Continued taking horizontal subsections, elevating at 90 degrees, and cutting with the travelling guide until you had reached the front hairline. Repeated the same technique on the opposite side

Improvement Plan	4	3	2	1	Performance Assessed
					Completed the opposite side with the same technique cutting to the center back and cross-checked horizontally
					Blow-dried the hair below the horseshoe
					Using the clipper and a ¼-inch (0.6 centimeters) guard, shortened and shaped the hair around the ears
					Blended the perimeter of the haircut
					Using a water bottle, rewetted the top section
					Switched back to cutting shears and created a ½-inch center profile section from the front hairline to the guide below the crown
					Started at the center back, using the 1½-inch (3.75 centimeters) guide from the horseshoe, elevated guide to 90 degrees
					Once you had completed the profile section, you then took a radial section from above the apex to the parietal ridge
					Took pivoting, pie-shaped sections from below the radial section
					Elevated the hair at 90 degrees and point cut until you completed the radial section on both sides
					At top of the section, switched to making horizontal subsections, elevating at 90 degrees
					Point cut following the guide from the center and behind the radial section

ACTIVITY 2: Matching Exercise B

Match the essential terms with their identifying terms or phrases.

- | | |
|---------------------------|--|
| blunt cut | 1. Cutting with the points of the shears to create texture in the hair ends |
| elevation | 2. This shape has a stacked area around the exterior and is cut at low-to-medium elevation |
| graduated | 3. Graduated effect achieved by cutting the hair with elevation or overdirection |
| guideline | 4. Section of hair that determines the length the hair will be cut |
| layering | 5. Level at which a blunt cut falls; where the ends of the hair hang together |
| notching or point cutting | 6. Line dividing the hair to create subsections |
| parting | 7. How tightly the hair is pulled before cutting |
| sections | 8. Hair that grows at the outermost perimeter along the face, around the ears, and on the neck |
| tension | 9. Cutting the hair to one length; all hair hangs to one level, forming a weight line |
| weight line | 10. Divisions of the hair made before cutting |
| hairline | 11. Angle at which a subsection of hair is held away from the head for cutting |

ACTIVITY 3 Fill in the Blanks

Complete the following review of terms in Chapter 16, Haircutting, by filling in the correct term next to each definition.

Term	Definition
_____	method of manufacturing shears whereby molten steel is poured into a mold
_____	parting the haircut in the opposite way from which you cut it in order to check for precision of line and shape
_____	hair is elevated to 90 degrees from the scalp and cut at the same length
_____	combing a section away from its natural falling position rather than straight out from the head, toward a guideline
_____	cutting position in which the palms of both hands are facing each other
_____	used to establish design lines that are proportionate
_____	guideline that is inside the haircut rather than on the perimeter

Complete the following review of Chapter 16, Haircutting, by circling the correct answer to each statement.

ACTIVITY 4 Multiple-Choice Questions

1. Cutting all the hair to one length is a/an _____ cut.
a) elevation
b) blunt
c) graduated
d) beveled
2. A cut that has a stacked area around the exterior and is cut at low to medium elevations is a/an _____ cut.
a) elevation
b) blunt
c) graduated
d) beveled
3. Cutting with the points of the shears to create texture is known as _____.
a) layering
b) undercutting
c) elevation
d) notching
4. Subdivisions of a section, used for control when cutting, are known as _____.
a) subsections
b) guides
c) sections
d) tension
5. The tools also known as trimmers that are used to clean necklines and around the ears are _____.
a) clippers
b) edgers
c) razor
d) shears
6. A tool used to cut blunt straight lines is called _____.
a) clippers
b) edgers
c) razor
d) shears
7. The tool used to cut hair with a softer edge is known as _____.
a) clippers
b) edgers
c) razor
d) shears
8. The comb used for close tapers in the nape and sides is the _____ comb.
a) styling
b) barber
c) wide-tooth
d) tail
9. The comb used mainly to detangle the hair is the _____ comb.
a) styling
b) barber
c) wide-tooth
d) tail

21. Gliding the fingers and shears along the edge of the hair to remove length is called _____ cutting.

a) point

c) notching

d) razor

b) slide

22. The process of thinning with scissors is known as _____.

a) effilating

b) shaving

c) sliding

d) trimming

23. _____ guides are used mostly in blunt (one-length) haircuts or when using overdirection to create a length or weight increase in a haircut.

a) Traveling

b) Movable

c) Stationary

d) Portable

24. _____ is used mostly in graduated and layered haircuts and in those situations where a length increase in the design is desired.

a) Effilating

b) Trimming

c) Elevating

d) Overdirection

ESSENTIAL OBJECTIVES

After completing this chapter and completing the Essential Companion components, you will be able to:

- LO1 Execute finger waving, pin curling, roller setting, and hair wrapping.
- LO2 Perform various blowdry styling techniques and learn the proper use of blowdrying tools.
- LO3 Demonstrate the proper use of thermal irons.
- LO4 Demonstrate the proper use of a flat iron and show an understanding of heat settings.
- LO5 Demonstrate various thermal iron manipulations and explain how they are used.

why study HAIRSTYLING?

Once you become a professional cosmetologist, you will hold your license or certification for many years to come, hopefully over several decades. You must be prepared to address your clients' desires and needs regardless of prevailing styles. Therefore, it is essential that you learn the basics of hairstyling.

Cosmetologists should study and have a thorough understanding of hairstyling because:

- > Hairstyling is an important, foundational skill that allows the professional to articulate creativity and deliver a specific outcome desired by the client.
- > Clients rely on you to teach them about their hair and how to style it so they can have a variety of options based on their lifestyle and fashion needs. You are the expert!
- > The client looks to you for that special style desired for that special day.
- > Hairstyling skills will enable you to help clients to be as contemporary as they would like to be, allowing them to keep up with the trends.
- > This knowledge helps make you a well-rounded hairdresser, and it also creates discipline and cleanliness in your work.
- > If one of your goals is to work on photo shoots or do editorial work for fashion, you must first master the basic techniques.



ACTIVITY Pin Curls

Briefly describe the parts of a pin curl and each pin curl technique.

Three Parts of a Pin Curl:

1. Base:

2. Stem:

3. Circle:

No-Stem Curl:

Half-Stem Curl:

Full-Stem Curl:

Barrel Curl:

Cascade Curls:

ACTIVITY 2 Practice Session! Create Roller Curls
 Perform each of the following curls or movements on a mannequin for a grade
 from your instructor. Take pictures of your finished work and paste in the grid
 below.

1. No-Stem Curl
2. Clockwise Curl
3. Half-Stem Curl
4. Barrel Curl
5. Full-Stem Curl
6. Stand-Up Curl

6. Stand-Up Curl	5. Full-Stem Curl	4. Barrel Curl
3. Half-Stem Curl	2. Clockwise Curl	1. No-Stem Curl

Finish Hair Using Basic Blowdry Styling

ACTIVITY 1 What are the Guidelines to Practice when Blowdrying?

ACTIVITY 2 List the Basic Tools Used for the Blowdrying Technique

ACTIVITY 3 Practice Session! Blowdrying Technique

Demonstrate one of the blowdrying techniques taught in your student textbook on a mannequin to be graded by your instructor.

After completing the exercises, please explain any difficulties you may have had with the exercises in the space provided. Discuss these difficulties with your instructor.

ACTIVITY 5 Curl Patterns

What are the four basic curl patterns? Fill in the blanks with the correct curl pattern.

1. _____ curls can be used to give a finished appearance to hair ends.
2. The _____ curl is a method of curling the hair by winding a strand around the rod. It creates a vertical corkscrew effect and works best on one length hair to create volume.
3. The _____ curl creates volume of hair, movement, and a curl formation from roots to ends. It is the most commonly used technique and works best on short or long-layered hair.
4. _____ create an S pattern and give texture and volume to the hair; can be applied on any texture and length.

ACTIVITY 6 Curl Patterns

Demonstrate two of the four curl patterns and explain the end results.

After completing the demonstrations, please explain any difficulties you may have had with the exercises in the space provided. Discuss these difficulties with your instructor.

Thermal Hair Straightening (Hair Pressing)

ACTIVITY 1 Types of Hair Pressing

Explain what is meant by each type of pressing technique and how each is accomplished.

Soft Press:

Medium Press:

Hard Press:

ACTIVITY 2 Prepare for Hair Pressing: Analysis of the Hair and Scalp

List the eight points that should be thoroughly covered in the hair and scalp analysis before proceeding with a hair pressing service.

1.

2.

3.

4.

5.

6.

7.

8.

ACTIVITY 3 Reminders and Hints for All Pressing Procedures

List at least five reminders and hints for pressing procedures.

1.

2.

ACTIVITY 5 Jeopardy

As in the game Jeopardy, write questions that would be correctly answered.

Hair Pressing for \$100.

1. To temporarily straighten overly curly or resistant hair.

2. A series of conditioning treatments.

3. Soft, medium, hard.

Hair Pressing for \$200.

1. Double press.

2. Breakage.

3. Medium hair.

Hair Pressing for \$300.

1. Scalp abrasions, contagious scalp condition, scalp injury, and chemically treated hair.

2. Wiry, curly hair.

3. Regular and electric.

Hair Pressing for \$400.

1. Carbon.

2. Apply less pressure to the hair near the ends.

ACTIVITY 2 Describe Three Classic Updo Techniques:
Chignon, Bun, and Twist

• Chignon:

• Bun:

• Twist:

ACTIVITY 3 Practice Session! Updos

Create any of the foundational updos for styling long hair: chignon, bun, or twist. If performed on a model outside of the classroom, take photos of the start, middle, and end to submit to your instructor for a grade.

HORIZONTAL FINGER WAVING PROCEDURE

Performance Assessed	1	2	3	4	Improvement Plan
Removed any tangles with a wide-tooth comb, starting at the ends and working up to the scalp					
Created a side part, combed it smooth, and arranged the hair according to the planned style					
Applied waving lotion or liquid gel with an applicator bottle to the side of the hair while damp					
Combed lotion throughout the section					
Began first wave on top right heavy side of head (Note: if left-handed, began on the left side of the head)					
Using index finger of left hand as a guide, shaped top hair with comb into the beginning of the S-shaping, using circular movement (Note: if left-handed, used index finger on right hand)					
Started at hairline, worked toward crown in 1½- to 2-inch (3.7-5 centimeters) sections until crown was reached					
To form first ridge, placed index finger of left hand above position for the first ridge (Note: if left-handed, used index finger on right hand)					
With teeth of the comb pointing slightly upward, inserted comb directly under index finger and drew comb forward about 1 inch (2.5 centimeters) along fingertip					
With teeth still inserted in ridge, flattened comb against head in order to hold ridge in place					
Removed left hand from head and placed middle finger above ridge and index finger on teeth of the comb (Note: if left-handed, used right hand for this step)					

WET SET WITH ROLLERS PROCEDURE

Performance Assessed	Improvement Plan			
	1	2	3	4
Both the ridge and the wave blended without splits or breaks, with the ridge and wave on the right side of the head				
Started with ridge and wave in back of the head and proceeded, section by section, toward left side of the face				
Continued working back and forth until entire head was completed				
Placed net over hair, secured if necessary, and safeguarded client's forehead and ears while under hood dryer with cotton, gauze, or paper protectors				
Adjusted hood dryer to medium heat and allowed hair to dry thoroughly				
Removed client from under dryer and let hair cool down				
Removed clips or pins and hair net from hair				
Combed out and reset waves into soft, waved hairstyle				
Added a finishing spray for hold and shine				
Combed hair in direction of setting pattern				
Starting at front hairline, parted off section the same length and width as roller				

HAIR WRAPPING PROCEDURE

Performance Assessed	1	2	3	4	Improvement Plan
Combed out and styled hair as desired					
After shampooing and conditioning, dried and pressed the client's hair					
Remove any tangles with a wide-tooth comb, starting at the ends and working up to the scalp					
Applied a light oil or styling aid to dry hair before wrapping					
Created a parting from the recession area to the crown; started combing the hair flat and to the right of the parting and held it down with your hand					
Starting on the heavy side of the part, using a natural bristle paddle brush, began to wrap hair smooth to head shape counterclockwise or in desired style direction					
Used duckbill clips or large bobby pins to keep the hair in place while wrapping					
Continued wrapping the hair in a clockwise direction around the head					
Followed the comb or brush with your hand or used your fingers, smoothing down the hair and keeping it tight to the head as you proceeded					
When all the hair was wrapped, stretched a neck strip or hair net around the head so that it overlapped at the ends					
Placed the client under a hooded dryer until the hair was completely dry					

THERMAL WAVING PROCEDURE (RIGHT- OR LEFT-HANDED)

Performance Assessed

Improvement Plan

Made sure scalp and hair were completely dry before combing out the style

Finished with hair spray

1

2

3

4

Removed any tangles with a wide-tooth comb, starting at the ends and working up to the scalp

Dried client's hair completely

Redraped client for a dry hair service

Heated iron

Combed hair in general desired shape

With the comb, picked up a strand of hair about 2 inches (5 centimeters) in width

Inserted iron in hair with the groove facing upward

Closed iron and gave it a 1/4 inch turn forward (away from you)

1

2

3

4

Improvement Plan

CHIGNON PROCEDURE

Performance Assessed

Applied styling product and blew hair dry for a smooth sleek finish

Set hair in electric or Velcro rollers (optional)

Parted hair on desired side

On the heavy side, placed a radial section from the back of the side part to the back of the ear.

Brushed into a low ponytail at the nape

Secured ponytail with elastic(s), keeping hair as smooth as possible

Used sides of bristle brush to smooth hair

Placed two bobby pins onto the band and spread them apart

Placed one bobby pin in the base of the ponytail

Stretched the band around the ponytail base

Placed the second bobby pin in the base

1

2

3

4

Improvement Plan

FRENCH PLEAT OR TWIST PROCEDURE

Performance Assessed

Improvement Plan

Redraped the client with a neck strip and styling cape

Applied the appropriate styling product that gave the hair a lot of hold

Set the hair

Once completely dry, established a side part from the front hairline to the apex of the head

Divided the front from the back by taking a radial parting from the apex of the head to the top of each ear and clipped it out of the way

Lightly back combed the hair in the rear section, building weight throughout until you accomplished a light packing

Using a grooming or a teasing brush, gently smoothed the hair of the back section toward the heavy side

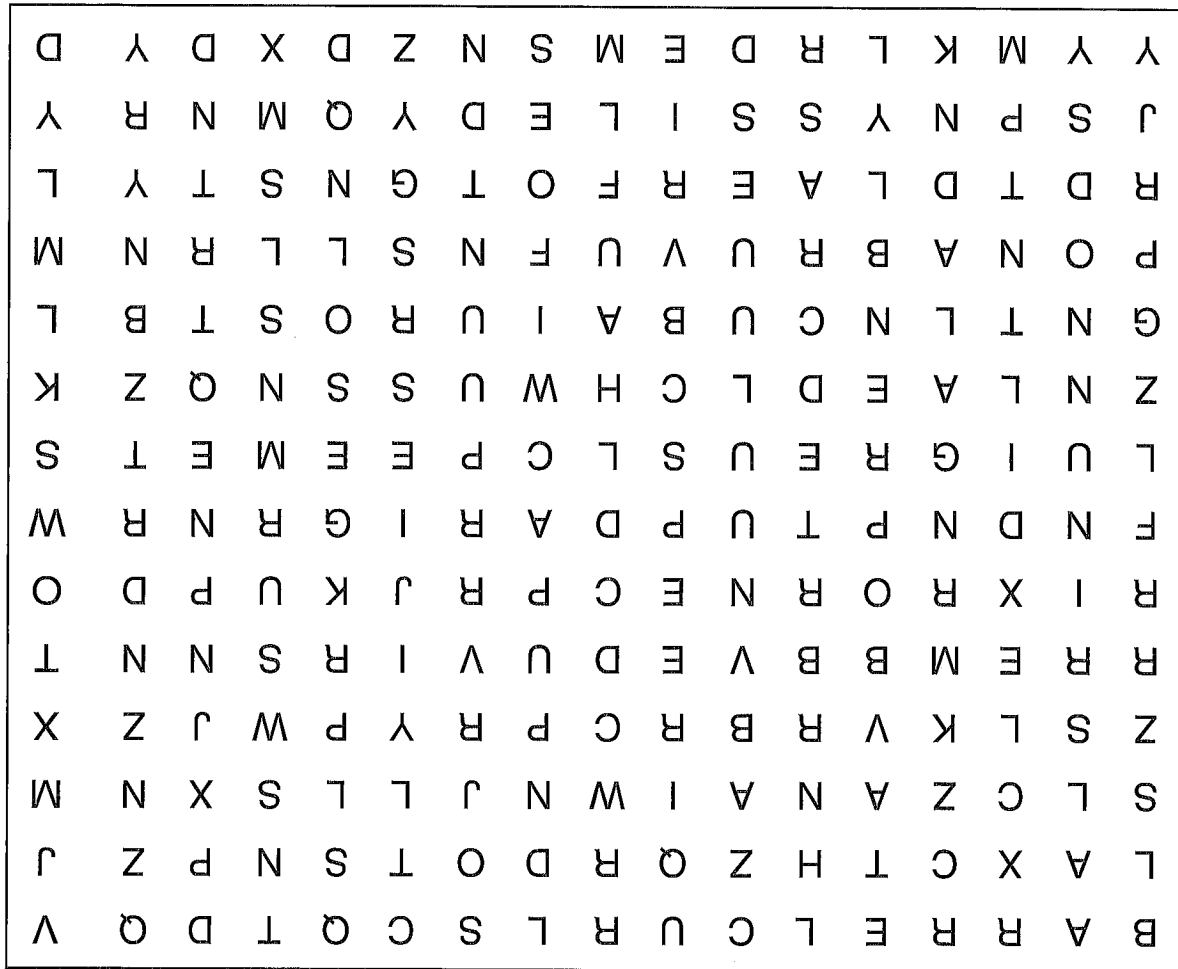
Began pinning the hair at the center of the nape; moved upward with the bobby pins while having the client hold her head completely upright, overlapping the pins by crisscrossing them to lock into place

Stopped just below the crown

With the brush, brought the hair from the left side over the center line (where the bobby pins were placed) and smoothed; twisted from the center of the nape

Moved upward and inward, tucking the ends into the fold as you moved up, to create a funnel shape

Improvement Plan	4	3	2	1	Performance Assessed
					Set the hair with a wet set or, if you wished to save time, electric rollers or thermal iron, utilizing any of the three basic curl patterns for your desired texture
					Once hair was set, took a large reverse triangle section, starting approximately 2 inches (5 centimeters) from the hairline with the point of the triangle placed just below the crown
					Clipped the remainder of the hair out of the way
					Starting at the top of the head, took 1/2-inch (1.25 centimeters) sections and backcombed or back brushed the entire triangle at the roots—to create height
					Smoothed out your back combing by brushing only the surface
					Gathered the hair and placed it just below the crown at the point of the triangle
					Used bobby pins to secure the hair by crossing your pins so they locked into place
					Removed the clips and released the remainder of the hair
					Took the section at the top, front hairline at the recession and clipped it out of the way
					Started at the back side and took curved sections from the side of the triangle and loosely crossed over the hair that was pinned and secured it with a hairpin, locking it into the crossed bobby pins
					Took another curved section on the opposite side and repeated the technique, loosely crossing over the center section and pinning into the crossed bobby pins



- _____ Technique of passing a hot curling iron through the hair before performing a hard press
- _____ Produces a strong curl with full volume
- _____ Removes 100 percent of the curl by applying the pressing comb twice on each side of the hair
- _____ Curl placed directly on its base
- _____ Forces hair between the thumb and back of comb to create tension
- _____ Pin curls placed immediately behind or below a ridge to form a wave
- _____ Two rows of ridge curls, usually on the side of head
- _____ Method of curling the hair by winding a strand around the rod
- _____ Also called cascade curls
- _____ Section of pin curl between the scalp and first turn of the roller
- _____ Hairstyle arranged up and off the shoulders

14. Pin curls sliced from a shaping without lifting hair from the head are referred to as _____ curls.
15. Large stand-up pin curls on a rectangular base with large center openings are known as _____ curls.
16. Teasing, ratting, matting, or French lacing are also known as _____ or wax adds considerable weight to the hair by causing strands to join together.
18. A _____ curl produces a tight, firm, long-lasting curl.
19. _____ adds gloss and sheen to the hair while creating textural definition.
20. A _____ curl is a wave behind or below the ridge.
21. When blowdrying and choosing a styling brush, take into account the texture, length, and _____ of the hair that you are working with.
22. The temperature of the heated thermal iron is tested on _____.
23. Combs for thermal curling should be made of _____.
24. For successful blowdry styling, the air should be directed from the blowdryer over the hair in a _____.
25. When the blowdry style is complete, the scalp must be _____.
26. _____ hair, as a rule, can tolerate more heat than fine hair.
27. Until dexterity is achieved and ease of manipulation is mastered, it is best to practice with _____ irons.
28. A pressing generally lasts until the next _____.
29. The types of hair pressing are soft, medium, and _____.
30. The temperature of the pressing comb and the amount of pressure used are adjusted based on the _____ of the hair.
31. _____ is the type of hair that requires the most pressure and heat.
32. _____ is the type of hair that requires less pressure and heat than any other type.
33. When pressing gray hair, use moderate heat and less _____.
34. Applying a heated comb twice on each side of the hair is known as a _____.
35. Test the temperature of a pressing comb on _____.
36. Burned hair strands cannot be _____.
37. Using excess heat on gray, tinted, or lightened hair may _____ the hair.
38. Hair pressing treatments between shampoos are called _____.
39. Carbon may be removed from the pressing comb by rubbing with a _____.
40. _____ waves are two rows of ridge curls, usually on the side of the head.