

# **Hair Dressing and Beutification**

## **Leve II**

**Based on November 2022, Version- 1**



**Module Title: Hair Color**

**Module Code: CST HDB2 M09 0622**

**Nominal duration 70 hours**

**November, 2022**

**Addis Ababa, Ethiopia**

## Acknowledgement

**Ministry of Labor and Skills and Ministry of Health** wish to extend thanks and appreciation to the many representatives of TVT instructors and respective industry experts who donated their time and expertise to the development of this Teaching, Training and Learning Materials (TTLM).

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## Acronyms

TVT .....	Technical Vocational Training
LAP .....	Learning Activity Performance
PPD .....	p-phenylene diamine
UV .....	Ultra Violet

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## Introduction to the Module

In hair dressing and beautification field, Color, color product and Treatment to know perform a color and color application. This module design to meet the industry requirement under the hair dressing and beautification occupational standard particularly for the unit of competence Perform hair coloring.

## Module Units

- Color product
- Color product Application
- Post treatment

## Learning Objectives of the Module

At the end of this session, the students will able to:

- Carry Out color product application
- Apply color product
- Prepare post color

## Module Learning Instructions

- Read the specific objectives of this Learning Guide.
- Follow the instructions described below.
- Read the information written in the information Sheets
- Accomplish the Self-check
- LAP Test
- Operation sheet

## Unit one: Hair Colour service

This learning unit is developed to provide the trainees the necessary information regarding the following content coverage and topics:

- Color service
- Hair and scalp condition
- Quality of color products
- Personal precautions

This unit will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:

- Define Color Service
- Identify Hair and scalp condition
- Apply Quality color products
- Check Personal precautions

## 1.1 Color Service

**Hair coloring**, or **hair dyeing**, is the practice of changing the hair color. The main reasons for this are cosmetic: to cover gray or white hair, to change to a color regarded as more fashionable or desirable, or to restore the original hair color after it has been discolored by hairdressing processes or sun bleaching.



Fig.1. A hairdresser colors a client's hair

Products for bleaching one's hair at home usually contain a 6% solution of hydrogen peroxide, while products for use in a hair salon can contain up to 9%. Peroxide bleached hair can have undesirable brassy or yellow hue. A product known as a **toner** is used to slightly alter the hair color's undertones. Purple shampoo (shampoo with purple coloring agents) can also be used to counteract brassy undertones.

Melanin pigments, which give hair a darker color, can be broken down with oxidation. The oxidizing agent used to bleach hair is hydrogen peroxide. It is mixed with ammonia to create an alkaline solution and to speed up the reaction. When melanin is oxidized, oxygen gas is released.

## 1.2 Hair and scalp condition

### Off-scalp

#### Hair with blonde highlights

Hair color was traditionally applied to the hair as one overall color. The modern trend is to use several colors to produce streaks or gradations, but not all work on top of a single base color. These are referred to as:

- **Highlighting**, where sections of hair are treated with lighteners
- **Low lighting**, where sections of hair are treated with darker hair colors
- **Splash lighting**, a horizontal band of bleached hair from ear to ear

There are also newer coloring techniques such as **ombré**, **shatush**, **balayage**, **airtouch**, in which hair is dark on the crown and bit by bit becomes lighter toward the ends.

These are off-the-scalp techniques, and can be applied by the following methods:

- **Foiling**, where pieces of foil or plastic film are used to separate the hair to be colored. Employed especially when more than one color is to be applied, this method ensures that only the desired hair strands are colored, and the rest spared.
- **Cap**, when a plastic cap is placed tightly on the head and strands are pulled through with a hook, a method infrequently practiced other than for applying highlights to short hair.
- **Balayage**, where hair color is painted directly onto sections of the hair with no foils used to keep the color contained, a method growing in popularity due to its observed effect of appearing more natural. The difference between balayage and ombré is that a balayage requires more precise hand-painting sections of hair and typically costs more.
- **Baby lights**, very thin highlights that are created by using a fine color technique, baby light results are very natural and subtle.
- **Dipping or tip dyeing**, where tips of the hair are dipped directly into dye. All coloring techniques can be used with any type of color. For lightening, the hair sometimes has to be bleached before coloring.

## On-scalp

Hair coloring can also be applied on the scalp for a more solid level of coverage

- **Root touch-up**, where color is applied only to the most recent section of re-growth (usually the first inch of hair nearest the scalp) Root touch-ups are repeated every 4–6 weeks as the natural color grows in and becomes apparent. People who color their hair to disguise gray often have these root touch-ups.
- **All-over color**, where the person wants all of their hair to be a different solid color
- **Block coloring**, where the person wants two or more colors applied to their hair, resulting in dimension and contrast

## 1.3 Quality of Color Products

### Hair Coloring Products

- Hair colorants are widely used by both genders to alter their natural hair color by removing some of the existing color and/or adding a new color.
- While most consumers have their individual reasons, the main motivator for coloring the hair is to cover up gray hair.

### Types and Definition of Hair Coloring Products

The size of the coloring molecule, swelling of the hair at the time of application, and alkalinity of the dye product determine whether the dye penetrates the cortex and colors the hair for a long period of time or precipitates on the cuticle and provides a temporary effect.

- Hair dyes add color to the hair, which can be lighter or darker depending on the type of hair coloring product used.
- Hair bleaches only lighten the hair without adding a new color to it. Hair bleaches remove the hair color through a chemical reaction. They can be used alone or in combination with permanent hair colors.
- Based on the permanency of the new color, the following hair coloring product types are available on the market today:
  - Temporary
  - Semi-permanent
  - Demi-permanent
  - Permanent dyes

**Hair bleaches. Based on the process of dying:**

**Non-oxidative hair dyes including:—**

- Temporary
- Semi-permanent
- Permanent progressive hair dyes

**Oxidative hair dyes including:—**

- Demi-permanent
- Permanent dyes (except the progressive dyes) Hair bleaches.

### **Types, Typical Ingredients, and Formulation of Hair Coloring Products**

- Hair coloring products can be categorized based on the presence or absence of the chemical reaction (oxidation)
- Non-oxidative products include temporary dyes and semi permanent dyes
- Demi-permanent dyes, permanent dyes, and hair bleaches fall into the category of oxidative products.
- Progressive hair dyes are permanent but not oxidative.

### **NON-OXIDIZING PRODUCTS**

- Non-oxidizing dyes are not able to produce lighter shades than the originally presenting shade and cannot significantly darken the originally presenting color. Temporary Dyes—
- Usually contain molecules that are too large to penetrate the hair cortex and also have low affinity to hair, meaning that the binding forces between the hair cuticle and the dye molecules are low.
- As a result, temporary dyes provide a weak coating on the hair cuticle and are easily washed out after the first shampooing.
- Temporary coloring agents include azo compounds, triphenylmethane-based dyes, indoamines, and indophenols.
- People who had permanent straightening, permanent waving, or even previous permanent coloring may have damaged cuticle, making the hair less resistant to the dyes.
- In such cases, the dyes can enter the cortex. Under these conditions, it may take more than one shampooing to remove the color.

- Temporary hair coloring products are often used to add a slight tone, brighten the hair, refresh the already colored hair, or try out a hair color before permanently dyeing the hair.
- Product forms include liquids, shampoos, hair mousses, gels, and hair sprays.
- Color rinses are usually liquid products that are applied after shampooing, with the excess dyestuff being removed by rinsing.
- Color-enhancing shampoos combine the action of a shampoo with that of a color rinse.
- Hair color sprays used for parties also contain temporary dyes, which makes them easy to remove.
- Mousses and gels serve as both styling and coloring products. Products with glitters are also popular, which give the hair a shimmery effect.
- Temporary hair dyes are ideal for people with less than 15% gray hair
- These dyes can readily stain the scalp and skin. Semi-Permanent Dyes—
- Usually employ dyes that are small enough to penetrate the hair cuticle to some degree in addition to staining it from the outside
- Semi-permanent coloring agents include nitrophenylene diamines, nitroaminophenols, and azo dyes.
- Similar to temporary dyes, their effect may be longer, if applied to damaged, porous hair.
- They are usually used on natural, unbleached hair to cover gray, add highlights, and cover up unwanted tones.
- Washing the hair opens the cuticle, allowing the color to escape over time because of the solubility of the dyes in water.
- The formulation of a typical semi-permanent hair dye includes a dye, an alkalizing agent, a solvent, a surfactant, a thickener, a fragrance, and water.
- Usually, 10–12 dyes are mixed to obtain the desired shade.
- Typically, semi-permanent hair colorings are available as lotions, shampoos, gels, creams, and mousses.
- Shampoos are usually applied to hair and left on it for 20– 30min. Thickness of such products is important as low-viscosity products would run off the scalp.
- Mousses incorporate the dye in an aerosol form. It is also applied to wet hair and left on the hair for 20–30min before rinsing.

- They are gradually washed out, usually during 6–8 shampooing.
- Semi-permanent dyes are ideal for people with less than 30% gray hair.
- Henna is also a semi-permanent dye.
- It adds red hues to natural brunette hair.
- Most recently, henna is combined with metallic salts to provide a wider range of colors

#### Progressive Hair Dyes—

- Progressive hair dye products, also known as gradual hair dyes or metallic hair dyes
- Contain water-soluble metal salts, which are gradually deposited on the hair shaft.
- The metals interact with cysteine in the cuticle to form metal sulfides, and the deposits gradually accumulate on the cuticle.
- The most commonly used ingredient is lead acetate. Bismuth citrate, is used to a much lesser extent.
- Progressive hair dyes change the color of the hair gradually from gray to yellow-brown to black over time. For a continuous effect, these products have to be continuously applied.
- Sometimes, trace metals left on the hair can interact with bleaching or permanent waving products. Therefore, it is recommended to allow the hair grow out before undergoing other coloring or waving procedures.

## OXIDIZING PRODUCTS

Oxidizing hair dyes are two-component systems:

1. One component (called tint) contains colorless dye intermediates (such as PPD; p-toluenediamine, PTD; and p aminophenols) and couplers (such as resorcinol and m aminophenols) in a highly alkaline formulation.
2. The other component contains hydrogen peroxide (the oxidizing agent, otherwise known as the developer or activator.
  - These products are mixed right before application, which generates a chemical reaction.
  - The alkaline agent swells the hair cuticle and thus helps the penetration of the relatively small dye intermediates into the cortex.
  - In addition, it also destabilizes hydrogen peroxide to liberate oxygen. The oxygen released destroys the hair's natural melanin (i.e., lightens hair) and also oxidizes the

dye intermediates and allows them to react with the couplers within the hair shaft to form a colored molecule.

- The final color molecule is too large to be removed by shampooing, which makes the color resistant to shampooing.
- Couplers do not produce hair color but alter the color of the oxidized dye intermediates.
- The color depends on the type and amount of dye intermediates and couplers used.
- Two main groups: demi-permanent dyes and permanent dyes. The primary distinctions between these two are the type and level of alkalizing agent and the concentration of the peroxide. These differences result in different color, coverage, lasting power, and lightening performance.

**Demi-Permanent Hair Dyes** They typically employ 2% hydrogen peroxide and lower levels of alkalizers (usually monoethanolamine). Their effect is longer lasting than that of semi-permanent colors. It is still not permanent due to the use of non-ammoniacal alkaline agent. They are gradually washed out, usually during 20–24 shampooing.

Demi-permanent colors can be used to enhance and brighten the natural hair color. Due to the lower amount of hydrogen peroxide, they do not lighten the hair. For the same reason, they are milder to the hair than permanent hair colors and have a less disturbing smell during application. Most commonly, they are used to add red highlights to brown hair. Demi-permanent dyes can cover up gray hairs up to 50%. Demi-permanent hair dyeing products are available as gels, creams, or liquids.

**Permanent Hair Dyes**— Their popularity is due to the wide variety of shades available as well as their ability to both lighten and darken the hair. Permanent hair dyes can be used to entirely cover gray hair and produce a completely new color. Permanent colorants use up to 6% hydrogen peroxide and contain ammonia as an alkalize to bring the pH of the final product to 9.0–10.5. This allows complete penetration across the cortex.

**Additional ingredients of permanent hair dye:** Solvents include water, glycerin, and ethanol. Boosters, such as ammonium per sulfate or potassium sulfate, can be used when dark-haired customers want to have blond hair. Hydrogen peroxide is not able to remove melanin completely by itself. Boosters enhance its effectiveness. Conditioners, such as quaternary compounds, proteins, and emollients. Surfactants, in which helps wetting the hair during the coloring

process, removing the dye formulation from the hair after application, as well as help stabilize the formulations. Examples include anionic, amphoteric, and nonionic surfactants. Buffers, Thickeners, Antioxidants, preservatives, and chelating agent's .Redyeing (touch-up) are usually necessary every 4–6 weeks as new hair appears at the scalp.

Mechanical factors, such as shampooing and permanent chemical procedures damaging the cuticle. Environmental factors, such as UV light and water exposure Hair Bleaches

### “Hair lightening”—

- It is a chemical process that involves the removal of the natural hair pigment or artificial color from the hair.
- The bleach oxidizes the melanin molecule. The oxidized molecule is colorless.
- The hydrogen peroxide breaks chemical bonds in the hair, which releases sulfur that accounts for the characteristic odor of the hair coloring process.

As melanin is located in the cortex, the cuticle has to be opened for optimal penetration of the bleaching agent. Therefore, bleaches are also alkaline solutions containing hydrogen peroxide, often with added boosters to accelerate the bleaching efficacy.

- Examples for boosters include ammonium per sulfate or potassium sulfate.
- Since hydrogen peroxide is not stable at an alkaline pH, it is usually supplied as a diluted (6–12%) aqueous solution or cream, and it is combined with an alkaline ammonia solution or cream immediately prior to use.

The higher the volume used of hydrogen peroxide, the more dramatic the achievable hair lightening.

- Ammonia serves to speed up the oxidation reaction. The reaction usually occurs more rapidly at the scalp due to the presence of body heat.
- Therefore, the bleaching product is usually applied to the hair tips first and then to the part close to the scalp.
- After leaving on the hair for a desired amount of time, the product is removed with an acidic shampoo to reset the pH to the normal level and minimize hair damage.
- The resulting color is often flat and difficult to control, and toners (dilute solutions of dyes) are used to make the color more aesthetically acceptable.
- The toner can be selected from either the permanent or semi-permanent family of dyes.

- Hair bleaching is commonly used by itself or to remove pigment before color is deposited.
- Similar to permanent hair dyes, regular reapplication is necessary to prevent visible regrowth of the naturally darker hair. How Hair Coloring Products May Affect the Scalp and Hair?
- Oxidative hair dyes, including demi-permanent, permanent, and bleaching products, contain hydrogen peroxide and have an alkaline pH, which can have a significant effect on the hair shaft's structure and its physical state.
- The higher the pH, the more damaging the procedure. •Oxidative hair dyeing can result in damaged cuticle, porous hair, decreased tensile strength, and increased hair breakage.
- All these can lead to undesirable sensorial attributes, such as poor shine, poor feel, coarse hair, which also lacks luster.
- Hair that has been permanently colored or bleached is more sensitive to physical and environmental damage.
- These changes are more prominent with frequent use and inappropriate application technique.
- Hair dyes can cause allergic reactions, mainly at the site of application.
- The number of adverse reactions is estimated to be less than 0.5% of the general population
- A key hair dye ingredient (dye intermediate), also known as a skin sensitizer, is para-phenylenediamine (PPD).
- Main symptoms of allergy to this ingredient include scalp redness and itching.
- Progressive and temporary hair dyes present minimal risk for allergic reactions, as they do not contain PPD.
- Permanent hair dyes contain the highest amount of this ingredient
- Consumers are advised to conduct a skin sensitivity test with the product to be used 48 h before hair coloring (for all types)
- Hairdressers are usually advised to wear gloves during the hair dyeing process.

- Hair bleaching has also been reported to cause skin irritation, including scalp burns and allergic dermatitis.
- An additional safety concern with regard to the use of oxidative hair dyes was whether they cause cancer.
- Oxidative hair dye ingredients belong to the large chemical family of arylamines, which includes known human carcinogens
- Although some arylamines are known to be carcinogenic in humans and other mammals, many substances of this large chemical class do not have carcinogenic activity.
- Numerous studies have been conducted on the safety of hair dyes; the vast majority of these studies concluded no association of hair dye use and an increased cancer risk.

## 1.4 Personal Precaution

There are many ways that people can maintain their hair color, such as:

- Using color-protecting shampoos and conditioners
- Using sulfate-free shampoo
- Using purple shampoos and conditioners to maintain or enhance the blond color in their hair
- Using leave-in treatments with UV absorbents
- Getting deep-conditioning treatments to smooth and add luster
- Avoiding chlorine
- Using heat protecting products before using styling appliances

## **Adverse effect**

Hair coloring involves the use of chemicals capable of removing, replacing, and/or covering up pigments naturally found inside the hair shaft. Use of these chemicals can result in a range of adverse effects, including temporary skin irritation and allergy, hair breakage, skin discoloration and unexpected hair color results.

## **Skin irritation and allergy**

In certain individuals, the use of hair coloring can result in allergic reactions and/or skin irritation. Individuals allergic to gluten for example, will need to be cautious when purchasing hair color since certain hair dye includes gluten. Gluten does not need to be ingested for it to cause an allergy. Skin contact with gluten may cause a reaction; therefore, leading to an allergy. Symptoms of these reactions can include redness, sores, itching, burning sensation and discomfort. Symptoms will sometimes not be apparent immediately following the application and processing of the tint, but can also arise after hours or even a day later.

To help prevent or limit allergic reactions, the majority of hair color products recommend that the client conduct a patch test before using the product. This involves mixing a small quantity of tint preparation and applying it directly to the skin for a period of 48 hours. If irritation develops, manufacturers recommend that the client not use the product.

## **Skin discoloration**

Skin and fingernails are made of a similar type of keratinized protein as hair. That means that drips, slips and extra hair tint around the hairline can result in patches of discolored skin. This is more common with darker hair colors and persons with dry absorbent skin. That is why it is recommended that latex or nitrile gloves be worn to protect the hands.

This discoloration will disappear as the skin naturally renews itself and the top layer of skin is removed (typically takes a few days or at most a week). Ways of preventing skin discoloration are to wear latex or nitrile gloves to protect the hands and also by applying a thin layer of petroleum jelly or oil-based preparation around the hairline. Gentle abrasives such as moist baking soda or a small amount of toothpaste applied with a toothbrush may also help remove the uppermost layer of skin and dye (neither removes just the dye). Acetone and nail polish remover

are not considered effective; laundry detergent may sometimes work as may moist cigarette ash rubbed into the stained area.

## Unintended results

Several factors influence the final color of the hair following the coloring process.

- For semi-permanent and demi-permanent color, the final color is a blend of the natural color of the hair and the dye color.
- Bleached hair will often require pre-pigmentation before a color application. Dyeing bleached hair brown can result in grey or very ashy (grey sheen) hair.
- Previously color treated hair can react unpredictably with subsequent color treatments.
- Previous use of shampoos which deposit a layer of plastic on the hair can block the action of the dye.
- Presence of minerals, salts, chlorine or other contaminants in the water used in the coloring process. Certain prescription drugs can alter hair chemistry
- Coloring dark hair to achieve a desirable shade of blond requires bleaching, followed by a secondary color treatment. Bleached hair can still have a yellow or coppery shade. A violet-based color can cancel out yellow tones, and a blue-based shade will cancel out coppery orange.
- Porosity of hair can affect the final shade. Porous hair often absorbs more color, which sometimes results darker than expected

## Health concerns

The salt lead acetate (formerly the active ingredient in gradual darkening products such as Grecian formula) is toxic. Lead acetate trihydrate has also been shown to cause reproductive toxicity.

Articles link the development of some forms of cancer (including leukemia, non-Hodgkin's lymphoma, bladder cancer, blood cancer, and multiple myeloma) with use of hair color. More specifically, prolonged uses of permanent dark hair dyes can double a person's risk of getting some types of blood cancer.

Phenylenediamine is known to cause health concerns, such as skin irritation. Exposure to phenylenediamine can occur during manufacturing or during the use of hair dyes. According to the Product Safety Summary Sheet by DuPont, Para-Phenylenediamine (PPD) is labeled as toxic and can cause adverse effects on aquatic organisms and could cause long-term effects in aquatic environments.

## Self- Check

### Part I Say true or false

**Instruction:-**Say true or false.

1. Melanin pigments, which give hair a darker color, can be broken down with oxidation.
2. Highlighting, where sections of hair are treated with lighteners
3. Low lighting, where sections of hair are treated with darker hair colors
4. Splash lighting, a horizontal band of bleached hair from ear to ear
5. Hair bleaching is commonly used by itself or to remove pigment before color is deposited

### Part. II. Fill the blank space

**Instruction:** Fill the blank space

1. Hair that is resistant and requires comparatively a longer processing time usually has:\_\_\_\_\_
2. Hair that is highly porous has a \_\_\_\_\_
3. The underlying color that emerges during lightening is known as: \_\_\_\_\_
4. The level is used to identify the\_\_\_\_\_
5. Intensity describes the:\_\_\_\_\_
6. What is the warmth or coolness of color known as?\_\_\_\_\_

### Part III Give short answer

**Instruction:-**Give short answer

1. Hair lightening is also called bleaching explain it.
2. List Temporary hair color:
3. Which hair color has a lifting action on the hair?
4. Predisposition test is performed to determine what?
5. When coloring long hair, what needs to be considered differently?
6. Explain Semi-permanent color.

## Unit Two: Colour Product Application

This learning unit is developed to provide the trainees the necessary information regarding the following content coverage and topics:

- Client comfort and Safety
- Stages and Methods of product application

This unit will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:

- Check Client comfort and safety
- Apply Stages and methods of product application

Unit Two: Colour Product Application

## 2.1 Client comfort and safety

Makes your clients feel comfortable by listening and being attentive to their Need different customers have various personal some can be chatty or themselves while other just like to keep to themselves and wait for the work to be done .

### 4 Ways to Make Salon Clients Feel More Comfortable

#### 1. Talk With the Client First

When possible, chat with your client before you begin any treatment or service. Ask what brings them to your salon and what they want to accomplish. Discuss their home care routines and what they like to do or like to avoid. This information will be valuable for determining what treatments to choose and how much follow-up the client will realistically do.

Use this opportunity to better understand what the client expects (or worries about) and what motivates them. Gauge their experience level with various products or treatments. For example, ask a client if they've had a facial before. What were their other experiences? What type of treatment do they enjoy? What results do they want?

This information will help guide your services and make sure you don't use any products or do anything they don't want.

#### 2. Let People Know what's happening

An uncertain client often feels reassured if they understand what to expect. Take the time to explain the process of whatever service you're about to perform. Let them know what they will feel or experience. And make your professionalism clear.

This is especially important when offering personal services like waxing, spray tans, or massages situations where many people are hesitant. But even with relatively common services like pedicures, recapping what will occur allows everyone to be on the same page. If a client is anxious about a certain step or is sensitive about a body part, reassure them in advance or offer to adjust your process to avoid any embarrassment.

### 3. Judge Their Interest in Chatting

Relaxing conversation can help take people's minds off both their worries and any anxiety they may have about the treatment. But each client will vary when it comes to how much they want to chat.

There is no easy formula to determine how much you should talk or refrain from talking, so be flexible and let them set the tone. If the client initiates conversation, go with it. Keep conversation about them and veer away from any sensitive topics.

If the client seems quiet, test the waters with a few casual questions. A general question about their day is a good conversation starter without being too nosy. If they seem reluctant to talk about themselves, don't keep pressing. Even if you're uncomfortable with silence, this time should be about the client's comfort.

### 4. Add Luxurious Touches

Don't skimp on creating a relaxing atmosphere throughout your business. This doesn't always require huge expenditures. Small touches can make a big impression. You might, for instance, offer head rests with cooling gels for massage clients. Ask what scents your client likes and use products with these, or light a candle or two in their area. Or play soft, relaxing music at a comfortable background volume.

If you take your time when getting to know a client and let them know what to expect, you'll set a good tone for a relaxed visit. Follow up on this by creating a comfortable atmosphere and providing just the right amount of cozy conversation. The result will be clients who enjoy their visits and want to come back again.

## 2.2 Stages and Method of Product Application

Now comes time to choose a coloring product to use. But first, recap the necessary steps that got you to this point!

1. Assess hair and scalp
  - A. Porosity, elasticity and texture
  - B. Existing level and tone
  - C. Percentage of grey
2. Perform a thorough client consultation
  - A. Determine target level and tone
  - B. Discuss maintenance, commitment, and budget

Next, you must:

3. Select an appropriate coloring product based on:
  - A. Lift or deposit
  - B. Grey coverage
  - C. Hair assessment
  - D. Lasting ability
  - E. Application technique
4. Consider existing tone/ underlying pigment
  - A. Enhance or neutralize
5. Select appropriate tools and supplies for selected application technique

\*Lasting ability is calculated under ideal circumstances. Durability can be affected by:

**Porosity** – hair that is overly porous tends to lose artificial color and fade more quickly.

**Products** – shampoos and products that are not formulated for colored hair may cause fading. Hair that is frequently heat styled without heat protective products will also fade more quickly.

**Environment** – factors such as sun exposure, pollution and poor water quality will all have an adverse effect on color durability.

Some additional factors to think about when considering hair type and condition:

Depositing color on healthy, medium textured hair is usually a pretty straightforward and predictable process. This is because the condition of this hair type does not generally have any porosity concerns, which means you may follow the manufacturer's guidelines for your color line to achieve optimal results.

### **Fine Hair Considerations**

When depositing color/going darker on fine hair:

Fine hair is generally not resistant to absorbing color. Choose a coloring product with a lower pH, such as Semi or Demi-Permanent, to maintain the integrity of the hair strand.

Fine hair tends to process darker than the intended level, especially if extreme porosity is present. It is recommended to formulate a color that is one level lighter than the desired level.

Fine hair that has been previously treated with oxidative color products is more likely to be highly porous. A coloring product that is too alkaline will swell the already compromised hair strand and result in breakage or further damage.

### **Coarse Hair Considerations**

When depositing color/ going darker on coarse hair:

Coarse hair with resistant porosity requires a higher level of developer, and a higher amount of ammonia within the formula in order to swell the hair strand and open up the cuticle layers effectively. Opt for an oxidative color, with a 10 or 20vol developer. A non-oxidative color product, such as a semi permanent, may not process effectively.

Remember that coarse hair tends to process one level lighter than the intended level, especially if resistant porosity is also present. It is recommended to formulate a color that is one level darker than the desired level.

Hair with uneven porosity must be formulated carefully, as each differing section will absorb and process color differently. Generally speaking, more than one color formula is advised in this case in order to achieve an even end result.

### Existing Color Considerations

Because the final color result is the result of existing color + artificial color, you should take into account the existing tone of the hair. If the client is a copper-tinged level 6 to begin with and would like to be a level 5, we will formulate differently depending on whether they desire a warm result, a neutral result, or a cool result. This is where the Color wheel comes in handy.



When formulating, you must determine the underlying pigment at your target level. For example, if lifting from a level 4 to a level 6, the tone that must be considered is orange.

So what will you do with that orange? Do you want to enhance *or* neutralize it? Remember, this decision depends on your desired result. The second most important tool, along with the underlying pigment chart, is the color wheel. This is where you will find pertinent information to help you formulate with consideration to the underlying pigment.

If the desired result is warm-toned, as in golden, copper, or red, you can enhance the exposed underlying pigment to create a beautiful warm or vivid result. Once you determine the underlying pigment that will be exposed, choose a tone from the same side of the color wheel to add to your formula. The more warmth you add, the brighter and more vivid the result. If you are looking for a more natural and subtle warm effect, add less. Alternatively, use a neutral natural color, and let the exposed pigment do all the work.

Note: The above chart does not account for porosity or hair texture concerns, yet it provides a basic guideline to help you visualize an appropriate ratio of natural-to-warm color tones depending on your desired result.

### **Neutralizing the Underlying Pigment**

If the desired result is neutral or cool toned, you will need to neutralize or overcorrect the exposed underlying pigment. You can do this by selecting a tone from the opposite side of the color wheel to add to your formula. If your goal is a neutral result, add the complimentary tone. For example, neutralize yellow with some violet in your color formula.

The amount of correcting pigment that you add to your formula will vary by level. Note: Generally, levels 3–6 contain a stronger underlying pigment, and will need more neutralizing pigment than lighter levels 7–10.

If you want an ash or cool tone result, select a complimentary tone appropriate for a darker level. For example, neutralize and overcorrect yellow with blue-violet or blue. Keep in mind that over correcting may create a “muddy” or dull result, as warmth in the hair is what reflects light and adds shine.

When using bleach for a double process technique, your corrective tones will be added to the toner, depending on which level you have lifted to.



Fig 1.1 Color product application

### How to choose color product

- Identify target users and create user personas
- Map each quadrants attitude to color
- Map product category materials
- Recommended direction refine color options

### Which color is best for application?

- Women love blue purple and green
- Women hate orange brown and gray
- Men love blue green and black
- Men hate brown orange and purple

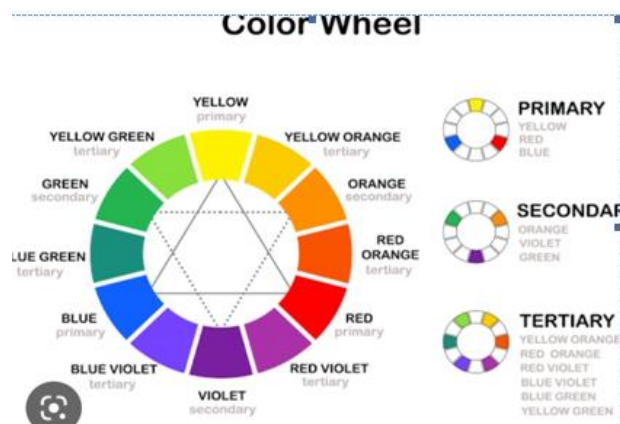


Fig.2. Color product application

## Product Application tools and equipment

- Colour safe gloves
- Colour cape
- Towels
- Hair clips
- Brush and Comb
- Colour Key
- Colour Bowl
- Weigh Scale
- Tint Brushes-
  - Standard 2 inch
  - Wide standard 3–4 inch (optional)
- Cotton (optional)
- Foil/Balayage Board (optional)

**Application:** - Prepare your client for their oxidative colour lightening service by performing the following procedure:

1. Drape your client using towels and a colour cape. First, place a towel around the client's shoulders. Then, fasten the colour cape loosely, allowing just enough room to tuck a towel into the outside of the cape. This provides a surface to lay the coloured hair on, which will keep the colour cape clean. If your client has very long hair, tuck the outside towel in so that it lays lengthwise (see following photo).
2. Ensure that the hair is fully dry.
3. Brush through the hair to remove tangles
4. Section and divide the hair into 4 quadrants using your comb and clips. Section nose to nape, then ear to ear.

Before we get into the application of the oxidative colour, let's pause for a moment to review the different areas, or zones, of the hair.



Fig.1.different area or zone,of hair

- Zone 1, or the regrowth area, is the area of the hair that sits within the first  $\frac{1}{2}$  to  $\frac{3}{4}$  inches from the scalp. This zone is also referred to as the “Hot Zone” when colouring, as the heat from the scalp will encourage the hair to process more quickly.
- Zone 2, or the mid-lengths, contains the segment of hair that sits between Zone 1 and the more porous ends. Generally, this hair will have a healthier structure and will process the most predictably according to manufacturers guidelines.
- Zone 3, or the ends, generally contains the most porous hair on the head. Not everyone will have a Zone 3. This is the case with shorter hair or hair that has an even average porosity from roots to ends. In instances where the porosity *is* more extreme through the ends, this hair will process more quickly and is more likely to soak up any cool tones added to the colour formula.

Take a moment to consider in which zone you would begin your application, based on the information above...

Once you have prepared the client for their colour service, gathered your tools and supplies, and mixed up your oxidative colour formula:

1. Done your gloves
2. Begin your application in the darkest sections. Generally, this will be the back two quadrants, as the hair around the face tends to be lighter and easier to lift.
3. Beginning at the bottom of the quadrant and working upwards, use  $\frac{1}{4}$  inch subsections/partings and apply your colour **only to Zone 2**,  $\frac{1}{2}$  inch to  $\frac{3}{4}$  inch away from the scalp, and through the mid-lengths. We begin in Zone 2 as this area is typically slower to process than Zones 1 and 3. You may choose to use your wider tint brush for this area for maximum efficiency and saturation. Be sure to saturate the hair fully on either side of the subsection/parting to ensure an even colour result. As mentioned above, not every client will have a Zone 3. If this is the case, apply the product through to the ends in this step. You may find it helpful to use a foil/balayage board to support the subsection that you are applying colour to. This provides a sturdy surface to allow ease of saturation, and keeps your hands free of product, preventing transfer onto Zones 1 or 3. If you prefer to use your hand to support the subsection, keep a towel nearby to wipe your hands periodically throughout the application.

4. Drop the hair without pressing it into the previous section to ensure that the regrowth remains free of product. If necessary, you may place a length of cotton between each subsection/parting. Continue this application throughout your four quadrants.
5. Once the colour had been fully applied to the mid-lengths, beginning in the same back quadrant as before, begin to apply your colour to the regrowth area, **Zone 1**, working in the same ¼ inch subsections/partings. Begin the application in the top of the quadrant, and work downwards towards the bottom. It is a good idea to switch to your standard 2 inch tint brush at this time for maximum neatness and control. Be sure to saturate the hair fully on either side of your subsections/partings.
6. Lastly, using your wide tint brush, apply your colour formula through the more porous ends if a **Zone 3** is present.
7. Allow the hair to process at room temperature. A helpful tip to avoid colour transfer to clothing and to keep things neat: fold the bottom edge of the outer draping towel up and secure at the sides with clips to create a neat little package (see following photo).

By applying your colour procedurally, as in steps 1–7, you will achieve an even colour result from roots to ends. Remember, the roots will process faster than the mid-lengths. The ends, if porous, may process even more quickly and begin to look muddy if cool tones are present in the colour formula.

### Processing

When processing an oxidative tint, the general timing is:

- Oxidative Permanent – 30–40 minutes
- Permanent High-Lift – 40–50 minutes

**Note: Always follow manufacturer’s guidelines when timing your colour process.**

Be sure to process for the full recommended time in order to allow the colour to lift adequately and deposit the associated tone effectively. Rinsing too early may result in a brassy or warm result, as the tone will not deposit fully and the underlying pigment will be left somewhat exposed. (The exception to this is when applying to ends with extreme porosity.)

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Oxidative colour is non-progressive, which means that it will stop processing on its own. For this reason there is no need to observe the decolonization process itself, but please be sure to check in with your client regarding scalp sensitivity or discomfort. A slight tingle may be felt as the colour oxidizes, but a burning sensation is not normal, and the colour should be removed immediately in such a case.

## Colour Removal

Once the colour has processed fully, bring your client to the sink:

1. Use gloves.
2. Prior to adding water to the hair, emulsify the hairline by massaging with your dry, gloved fingertips in a circular motion. This will begin to lift the colour off of the skin to avoid staining.
3. Rinse the hair with warm water until the water runs clear. The hair must be fully rinsed to avoid scalp irritation. This is especially important in the nape and around the ears, which can be tougher to rinse effectively.
4. Shampoo twice with a colour-safe shampoo and follow with a suitable conditioner.
5. Style as desired, and don't forget to educate your client on the best products to care for their coloured hair!

## Retouch Schedule

As with any service, it is up to you to recommend an appointment schedule that will best maintain your client's hair.

A global lightening service such as this one should have a retouch schedule anywhere from three to six weeks, depending on growth. Ideally, your client should not have more than  $\frac{1}{2}$  to  $\frac{3}{4}$  inches of regrowth at their next appointment. Keep in mind that once the regrowth is over  $\frac{3}{4}$  inches, you will no longer have the heat from the scalp to help the colour process, and will need to treat the retouch as a virgin application, which can be tricky on such a small amount of regrowth!

You also must ensure that you do not overlap onto the previously lightened hair. This can cause colour banding and breakage. Remember that once the hair has been subjected to an alkaline chemical, its structure is permanently altered and more susceptible to damage.

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When performing a retouch service:

1. Prepare the client and the hair as noted above.
2. Starting in the back two quadrants, work in ¼ inch subsections/partings, from the top down, carefully applying colour to the regrowth only. Avoid overlapping onto the previously coloured hair and be sure to fully saturate both sides of your subsections/partings.
3. Process per the manufacturer's guidelines
4. Follow the colour removal guidelines as noted above.

### Refreshing the Ends

When your client returns for their retouch appointment, you may notice that their ends have faded and need refreshing. Assess the hair's condition, considering porosity, texture, level, and tone. Formulate a semi-permanent colour product that will match the formula at the regrowth.

1. Apply your root retouch application, and then wait until the root has processed about halfway.
2. Mix up your semi permanent colour formula, and apply it to the mid-lengths and ends, being careful to avoid the regrowth area.
3. Ideally, the semi-permanent colour product should process for the last 10–20 minutes of your retouch process, depending on texture and porosity.

#### 1. What You Should Do Before Coloring



Fig.1 Section the hair correctly to prepare for coloring

## Self -check

### Part –I Say true or false

#### Instruction:-Say true or false

1. Depositing color on healthy, medium textured hair is usually a pretty straightforward and predictable process.
2. Fine hair is generally not resistant to absorbing color
3. Coarse hair with resistant porosity requires a higher level of developer and a high amount of ammonia.
4. Durability can be affected by porosity, products and environment
5. Before Coloring section hair into four parts .

### Part-II Choose the best answer

#### Instruction:-Choose the best answer

1. To select an appropriate coloring product based on :-
  - a. Lift or deposit
  - b. Grey coverage
  - c. hair assessment
  - d. Lasting Ability
  - e. Application Techniques
  - f. All of the above
2. To Consider existing tone /underlying pigment
  - a. Enhance or neutralize
  - b. Lift or deposit
  - c. Gray coverage
  - d. All
3. Durability can be affected by :-
  - a. Porosity
  - b. products
  - c. environment
  - d. all of the above

### Part-III Give short answer for the following question

**Instruction:-**Give short answer for the following question

1. Assess hair and scalp may include

A. \_\_\_\_\_

B. \_\_\_\_\_

C. \_\_\_\_\_

2. Mention ways to make salon clients feel more comfortable situation.

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

LAP Test

**Steps:-**

- Check skin color.
- Check product instruction and expired date.
- Check strand and elasticity taste hair.
- Check Client scalp and hair condition.
- Use Vaseline for head, ear and back of neck.

## Operation sheet

**1.1. Operation title:** Apply hair color products

**1.2. Purpose:** To understand hair color and its procedures

**1.3 Instruction:** Prepare color hair prouder and color products

**1.4 Tools and requirement:**

- Color
- Glove
- Hair clips
- Protective cloth
- Plastic bowel
- Color burnish
- Vaseline
- Trolley
- Aluminum foil
- Client chair
- Neutralizing shampoo
- conditioner
- To give protective cloth
- Use glove
- Mix hair color
- Section hair 4 part
- Start to at the back of neck
- Don't touch skin ½ fair to skin
- Developer
- To read color instruction
- Time
- Rinse to neutralizing shampoo
- Don't use thermal iron (pesysstra )  
2 weeks

## Steps in doing the task

- wash the hands
- check with the client for contra-indications, if any
- Drape your client using towels and a colour cape.
- First, place a towel around the client's shoulders.
- Then, fasten the colour cape loosely, allowing just enough room to tuck a towel into the outside of the cape. This provides a surface to lay the coloured hair on, which will keep

the colour cape clean. If your client has very long hair, tuck the outside towel in so that it lays lengthwise Ensure that the hair is fully dry.

- Brush through the hair to remove tangles
- Section and divide the hair into 4 quadrants using your comb and clips. Section nose to nape, then ear to ear.
- Process per the manufacturer's guidelines
- Follow the colour removal guidelines as noted above.

**Quality Criteria:** The given task is to understand application of color products

**Precautions:** to practice the hair's condition, consider porosity, texture, level, and tone. Formulate a semi-permanent colour product that will match the formula at the re growth.

## Unit Three: Post tretment service

This learning unit is developed to provide the trainees the necessary information regarding the following content coverage and topics:

- Rinse and neutralized color
- Consult clients

This unit will also assist you to attain the learning outcomes stated in the cover page.

Specifically, upon completion of this learning guide, you will be able to:

- Apply Rinse and neutralized color
- Provide Consult clients

### 3.1 Rinse and neutralized color

Rinses are designed so that the color coats the hair shaft and rests entirely on the surface of the hair, although darker colors can actually give a longer-lasting stain to porous or damaged hair. There are a number of variations of color rinses, which are used for different purposes. There are colors that are more and are used to cover gray hair or temporarily give a bold change to the hair's color. There are also colors that are translucent and only tint the base color of the hair. These are often used to tint hair that has a small percentage of gray, thereby making the white of the gray appear to be a more natural highlight color. Rinses are also used on hair that has been permanently colored in order to “tone-down” the color results from the permanent color service.

A neutralizing rinse to minimize damage to hair and scalp, particularly that which occurs during the rinsing step, based on a mixture of an acid, hydroxyethylcellulose, a wetting agent, an opacifier, a color indicator, laureth 23 and a conditioner; a method for applying the neutralizing rinse based on the steps of preconditioning or pretreating the hair, applying a hair relaxer, rinsing the relaxer, applying the neutralizing rinse, combing or shaping the hair and then rinsing the neutralizing rinse from the hair; and a method for preparing the neutralizing rinse based on the steps of first mixing hydroxyethylcellulose with water, then adding acid, then adding laureth 23, then adding an opacifier, and then adding a conditioner. The method for quickly closing down the swollen hair shaft also provides for the hair bonding in a desired configuration and eliminates the less than straight or appearance of under processing, also called reversion.

#### Products to Reform Color Treatment

Color reflexology combines two disciplines, color therapy and reflexology, to create a practice that promotes stability and wellness in a person's general well-being. This occurs through restoring and maintaining balance within the chakras and the stimulation of pressure points in the hands and feet, to aid in the recovery of body parts or organs.

### 3.2 Consult Clients

Precautions to take after colorings hair

- Avoid frequent change of hair color because it damages hair and result in thinning of hair.
- Use shampoo which is specified for color hair.
- Deep condition hair once in a month and do condition after every shampoo.
- Do not apply henna in hair for 4-5 before you go for hair coloring.
- Do not use dandruff shampoo after coloring as it may discolor hairs.
- Oil regularly once in a week.
- Do not use hair dryer.
- Use good quality hair dye from good brand, check precaution to be taken and use before date.

Personal Precautions Skin Reactions to Hair Color

Hair colors are chemical compounds hence you should take some precautions while doing hair coloring. It is very important as it can cause allergy and other skin problems. If you have decided to go for hair coloring first select the color which suits your personality and once you have color

your hair you do not change mind for another color. It is equally important to select beauty parlor or salon which is has a good reputation, trustworthy and experienced persons. Do discuss any doubt if you have any skin allergy for chemical use in hair dye. For coloring hair first time it is safe to go for professional salon. Try to avoid hair coloring if the skin allergy or dandruff.

## Self -Check

Part – I Say true or false

Instruction:-Say true or false

1. Hair colors are chemical compounds hence you should take some precautions while doing hair coloring.
2. Color therapy and reflexology, to create a practice that promotes stability and wellness in a person's general well-being.
3. A neutralizing rinse to minimize damage to hair and scalp, particularly that which occurs during the rinsing step
4. The method for quickly closing down the swollen hair shaft also provides for the hair bonding in a desired configuration and eliminates the less than straight or appearance of under processing, also called reversion.
5. It is important to avoid hair coloring if the skin allergy or dandruff.

### Part II Give short answer for the following question

Instruction:-Give short answer for the following question

1. List Precautions to take after colorings hair.
2. Color reflexology combines two disciplines \_\_\_\_\_ and \_\_\_\_\_

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