



Unit 202 – Science Hair & Beauty

How does this unit link to prior learning?

Links to H&B careers and the training and education they have to be qualified. Learners will understand the structure of the hair, skin and nails and how they function. They will learn about the pH of products and their ingredients and the effects they have on the hair and skin. They will learn the laws and regulations to bring new products and services to the market, and animal testing and its alternatives.

What will you be learning about?

What is this unit about?

The purpose of this unit is to encourage you to explore the relevance of the associated sciences in hair and beauty and how science influences the development of products in the hairdressing and cosmetic industry. The study of the application of science in the hairdressing and cosmetic industry should promote an understanding of the commercial application of science and how it may affect personal decisions that are not solely related to hair and beauty. The process of how to set up and conduct a scientific experiment will be introduced; this will include the method of investigation, analysis of data and drawing of conclusions. You will carry out pH testing on a range of products, compare the results and relate each to their effects on hair and skin. They will explore typical tests carried out in the sector and investigate the properties of ingredients in cosmetics. You will also have the opportunity to debate the ethics of product testing. On completion of this unit you will be able to identify and apply the sciences related to hair and beauty. Additionally, they will be able to transfer their learning and identify the influence of science in a range of contexts.

Key Focus

- 1.1 The effects of acids and alkalis on hair and skin
- 1.2 The scientific principles of ingredients in hair and beauty products
- 1.3 Ingredients in hair and beauty products
- 1.4 Ethical consideration for testing cosmetics
- 2.1 Anatomy and physiology terminology of hair, skin and nails
- 2.2 Hair, skin and nail conditions and how they can affect or limit treatments and services

We will develop our learning by studying the following sequence of lessons:

Topic 1.1

Acids and alkalis are present in the human body and are essential for continued life, however if the normal balance of these chemicals are tilted, the body may not be able to function normally. Identification of the correct balance will aid in identifying what products are best suited to individuals.

Topic 1.2

Identifying the effect of cosmetic products on hair and skin will further enable learners understanding of their appropriate use.

Topic 1.3

You will understand the main ingredients, properties and functions of substances used in hair and beauty products:

Topic 1.4

The use of animals to test cosmetics products or their ingredients is banned in the UK and all other member states of the European Union. Since March 2013, it has also been illegal to sell cosmetics products within the EU which have been, or which contain ingredients, newly tested on animals.

Topic 2.1

The anatomy of hair and beauty will be explored giving the learner a greater understanding of their physiology. Factors that affect the health and condition of hair, skin and nails and how disorders adversely affect the well-being of the body will be examined; this topic will give the learners breadth and depth knowledge of the subject and will be fundamental in aiding

learners make future lifestyle decisions.

Topic 2.2

You will know that pathogens are disease-causing micro-organisms.

You will understand how the human body is defended against pathogens.

You will understand contagious/non-contagious diseases.

How will this unit help you in the future?

Year 11 - In year 11 you will start the year by completing the mock synoptic assignment which is split into three tasks. This unit is designed to help you understand task 2 which is to plan a design image (hairstyle, makeup & nail look) to use on your promotional material as an image. In Jan 2026 they will start their actual assignment, scenario and era is set by City & Guilds.

Beyond Lode Heath You will gain an understanding and knowledge of the hair, skin and nails giving you a head start if you are going to pursue a career in this industry. You can go on to compete a NVQ to become a qualified hairdresser or beauty therapist at college or go for an apprenticeship where you would work and train in a salon and attend college once a week.

Key Vocabulary

Epidermis Dermis Hypodermis Cortex Medulla Cuticle Hyponychium Nailplate Nail bed Lunula Free Edge Matrix Mantle

Acids Alkalis Ingredients Animal Testing Effects Functions Laws & Regulations Hair Testing

Homework guidance:

Pupils will receive a minimum of one project based per half term for which they will be expected to spend a minimum of 60 minutes completing. These will be a combination of written, research, knowledge retrieval and investigative homework's. **Failure to complete homework will result in a 25 minute after school detention, in which they will be expected to complete the homework.**

How can you help?

Encourage pupils to make use of resources that are uploaded onto teams channel.

Encourage pupils to listen to the ingredient's song (on teams channel with lyrics)

Encourage them to make revision guides at the end of the topic and fully revise for assessment tests.

You can help them by ensuring their homework is completed on time. Supporting them with their written work and encouraging them to research and then reduce and summarise information rather than copying from the internet.

Encourage them to read out their work to you and explain it in their own words to ensure that they understand it. Get them to check through their work and correct errors with spellings and presentation.

Encourage them to practice their practical skills like blow-drying, makeup application and nail painting.