Most and washing. at around this time,

Most people washed themselves with only one essential thing at the time, water.

This, of course, happened until the development of soap in 2800 B. C. The soapwas found in clay cylinders during the excavation of ancient Babylon.

There wereinscriptions discovered on the cylinders, which showed us that fats were boiledwith ashes, which was the method of making the soap at this time. Records haveshown that Egyptians bathed regularly. There was a medical document found calledThe Ebers Papyrus which described the combining of animal and vegetableoils with alkaline salts to form soap-like material. These were used fortreating skin diseases and washing. At around this time, Moses gave theIsraelites specific laws about personal cleanliness. He related cleanliness tohealth and religious cleansing. The early Greeks bathed for artistic reasons. Instead of washing with soap, they bathed themselves with blocks of clay, sand, pumice, and ashes.

Then they anointed themselves with oil and scraped off theoil and dirt with a strigil. They washed their clothes in the streams withoutusing soap. According to an ancient Roman legend, soap got its name from MountSapo where animals were sacrificed. When it had rain, the water washed away theanimal fat and wood ashes down into the clay soil along the Tiber River.

Womenhad found this clay mixture and it made their wash much cleaner. Soap making wasa popular craft in Europe by the 17th century. Vegetable and animal oils wereused with ashes of plants and fragrance. More varities of soap gradually becameavailable for shaving and washing hair, as well as bathing and washing clothes. Italy, Spain, and France were the early centers

of soap manufacturing. TheEnglish began making soap during the 12th century. The chemistry of the soapmanufacturing stayed the same until 1916 when the first synthetic detergent wasdeveloped in Germany.

Synthetic detergents are non-soap washing and cleaningproducts that are synthesized. Household detergent products became knownin the United States around the 1930s. It is very important to understand thebasic knowledge of soap and detergent chemistry. Water has a property calledsurface tension. In water, other water molecules surround each molecule, but atthe surface, other water molecules only on the waterside surround thosemolecules. A tension is created as the surface molecules are pulled into thebody of water. This tension causes the water to bead up on the surface, which slows down the cleaning process. During the cleaning process, surfacetension must be reduced so the water can spread and wet surfaces.

Chemicals thatdo this are called surface-active agents. The surface-active agents perform manyimportant jobs in cleaning. They are classified by their ionic properties inwater.

These properties are anionic which means a negative charge, nonionicwhich means no charge, cationic which means having a positive charge, andamphoteric which means having either a positive or negative charge. Soaps arewater-soluble sodium or potassium salts of fatty acids. The fats and oils usedin soap making are made up of a unique mixture of several differenttriglycerides. In a triglyceride molecule, 3 fatty acid molecules are

attachedto one molecule of glycerine. Fatty acids are the mechanism of fats and oilsthat are used in soap.

They are weak acids of two parts, which are a carboxylicacid group and a hydrocarbon chain attached to the carboxylic acid group. Chemistry