The scenario

Subject	**Chemical reactions/How to prepare a soap?**
Length	6:25
Main objectives	To show the reaction between an oil and NaOH
Detailed objectives	
Structure and description of experiments:	
1. Introduction	Description: The motivation for the experiment is to make soap via the saponification reaction
2. Main subject	Description: how to make soap from a base and oil? what happens during the reaction?
Part 1	
(0:40), **Experiment 1 (0:44)**	**Tools:** Oil, NaOH, stir plate **Description:** Prepare a solution of 42 g of NaOH in 250 mL of water. Slowly add the NaOH because it will start to heat due to an exothermic reaction occurring. Be careful. Once the NaOH is dissolved, add 250 mL of oil. Then stir for around 40 minutes at room temperature. The mixture will slowly become smoother and opaquer; it should thicken to a pudding-like consistency. The reaction between oil and NaOH is exothermic in nature because heat is liberated during the reaction. Subsequently, the suspension formed is made up of soap and glycerol. After the process where triglycerides are combined with a strong base like NaOH to form fatty acid metal salts during the soap-making process. In three days, the soap will be hard enough. **Questions:** What is the saponification reaction? – is the process of converting esters into soaps and alcohols by the action of an aqueous alkali like NaOH solution. **Conclusions:** Slowly add the sodium, because it will begin to heat due to an exothermic reaction occurring.
3. Summary, evaluation and notes	**Application:** Saponification is used by wet chemical fire extinguishers to convert burning fats and oils into non-combustible soap which helps in extinguishing the fire. Further, the reaction is endothermic and lowers the temperature of the flames by absorbing heat from the surroundings. In the manufacture of soaps, serve different purposes like laundry, cleaning, and lubrication.

Co-funded by the Erasmus+ Programme of the European Union

	Level: secondary school

Co-funded by the
Erasmus+ Programme
of the European Union