

## Jumping sodium

Written by pimpitcha

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{youtube}ZgAgO6bT49A{/youtube}

In this video explains Today we will conduct an interesting experiment called "Jumping sodium."

To conduct this experiment, we will need 2 measuring cylinders, metallic sodium, phenolphthalein and thymolphthalein indicators, and plain water.

To begin, let's prepare the measuring cylinders for this experiment. Pour about 15 ml of ordinary water into each of them. Then, add drop by drop the thymolphthalein and phenolphthalein indicators to the cylinders.

Then we should pour approximately 20 ml of either kerosene or gasoline. The kerosene or gasoline is less dense, so it will float on the water surface.

This will form two layers of immiscible liquids. Now let's take a piece of sodium metal. Sodium is an active alkali metal. Cut off some small pieces from the sodium, the sizes of which should be similar to a pea. Like all metals, sodium has a glossy surface, however, due to its high activity sodium oxidizes in air very rapidly and covers itself with a layer of peroxides and carbonates. Now let's conduct our experiment. In each of the cylinders add a piece of sodium metal. At the same time we should observe an interesting effect.

First, sodium passes through the kerosene layer, which it does not react with, but then it touches the water layer and it reacts with water to produce hydrogen and sodium hydroxide. Sodium hydroxide changes pH of the lower liquid layer, the indicator dyes the solution in its color. Phenolphthalein in alkaline environment becomes pink and thymolphthalein becomes blue.

A piece of sodium in this case starts to jump during hydrogen formed in the reaction with water. In the upper layer the reaction does not occur since sodium is not reacting with kerosene. This reaction is quite beautiful and spectacular. Now we'll do it a bit differently, this time we will take a universal indicator that is also called yamanda indicator. In a neutral environment this indicator is green. Now, I'll add a little bit of vinegar into the cylinder and at the same time it becomes red.

Then I pour a layer of kerosene into the cylinder and also add a piece of sodium. In this case, the water layer with indicator turns purple.

□□□□ : <https://www.patreon.com/Thoisoi>

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