

The Galaxy Team has decided that in order to advance the research on Pokemon and the Pokedex, Jubilife village needs a brand new power plant. Luckily, Professor Laventon has discovered that the Pokemon, Voltorb, is the best candidate to help power the village.

Voltorbs can cleanly and efficiently produce electricity. An average Voltorb is about 0.5m (1'08") tall and weighs 10.4 kg (22.8lbs). However, they are uncommon and are only found in the Sacred Plaza.

Objective: How many Voltorbs will you need to catch to fully power the village. Describe each step in your thought process.

Jubilife City is based on Sapporo, Hokkaido's capital. It had a population of 1,970,277 in 2020. The per capita electricity use of Japan is 7,499.44 kilowatt hours, or 7.49944 megawatt hours. This equates to an estimated 14,775,974.14488 megawatt hours for the city of Sapporo. New Mauville is a power plant, based on the Port of Kumamoto. The population of Kumamoto is 738,865. Assuming New Mauville powered all of Mauville City, then it would need to generate 5,541,073.7356 megawatt hours. There are three Voltorbs in New Mauville. Assuming this is all that is needed to power the plant, then Voltorbs would need to produce 1,847,024.57853 megawatt hours per Voltorb. So, this would mean Jubilife City would need 7.99 Voltorbs to power the city.

You would need to catch 8 Voltorbs to power Jubilife City.