

## **Simulator, Nohguchi Bottle, of Soil Liquefaction for Education**

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The phenomenon of liquefaction is one of the most interesting demonstrations for science education because it illustrates the strange behaviors that go beyond the realm of common sense. For this purpose we developed a simulator named Licky which can easily simulate this phenomenon any time, anywhere and on many occasions. The simulator comprises a closed bottle, fluid, granular material and some pins. This simulation is set up by shaking the bottle and by mixing the fluid and granular material. The liquefaction is generated by hitting the bottle, and as a result under certain conditions the pin rises to the surface of the sediment of the granular material and under other conditions sinks into the sediment. In this paper we introduce the fundamental theory of the law of similarity and the mechanism for setting up this apparatus.

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