

## Visual Dynamics Examples

Sand Vibration Patterns - Chladni Plate (3:51)

St Mary's University of Halifax, NS, Canada

<https://www.youtube.com/watch?v=YedgubRZva8>

<https://youtu.be/YedgubRZva8>

SMUPhysics Jun 23, 2009

*Vibrate a plate at special selected frequencies; observe geometric patterns on the plate at resonant frequencies—the dark areas are vibrating; the white “lines” are not vibrating. This video plays the sound of the tones.*

Amazing Resonance Experiment! (3:38)

<https://www.youtube.com/watch?v=wwJAgrUBF4w>

<https://youtu.be/wwJAgrUBF4w>

brusspup Jun 6, 2013

*The geometric patterns become more complex as the frequency increases. This video does not play the sound of the tones.*

Cymatics: Chladni Plate - Sound, Vibration and Sand (1:43)

<https://www.youtube.com/watch?v=tFACYruShow>

<https://youtu.be/tFACYruShow>

Nigel John Stanford Nov 12, 2014

*Nigel Stanford made several videos showing that musical tones can create patterns on square plates, round plates, in tubes of different lengths, in a bowl of water, in a stream of flowing water, in flames, etc.*

Sand Dunes on Mars

[https://commons.wikimedia.org/wiki/File:Proctor\\_Crater\\_Dune\\_Field.jpg](https://commons.wikimedia.org/wiki/File:Proctor_Crater_Dune_Field.jpg)

1. *The Martian winds blow across the crater. Ripple patterns in the light and dark materials are different (when viewed close up and compared).*
2. *Also, scientists believe that the dark material is carried and deposited in different places, in an annual cycle.*