

Re-Making Models

Examples

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Department of Geosciences



MEDL The
Modeling & Educational
Demonstrations Laboratory
<http://medl.geos.vt.edu/>

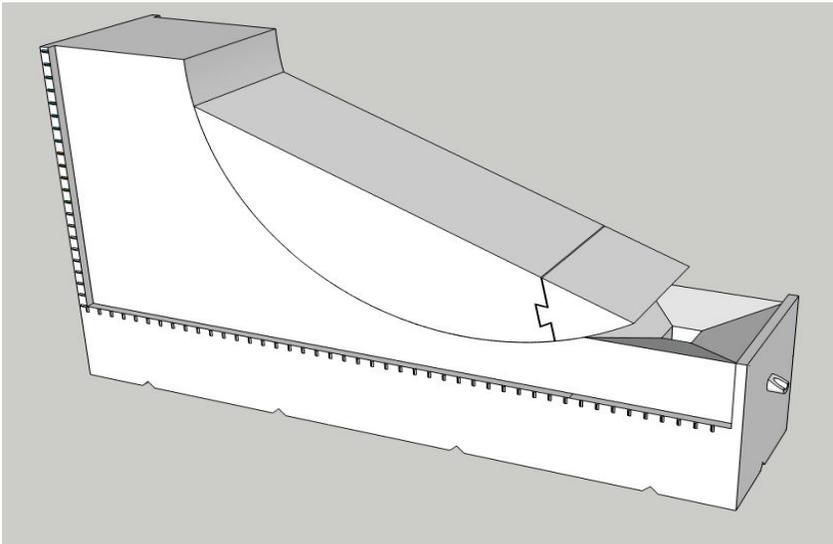
Material presented at the 2020 Earth Educators Rendezvous Share-a-thon
https://serc.carleton.edu/earth_rendezvous/2020/program/share-a-thon/237519.html

Slope Instability Model

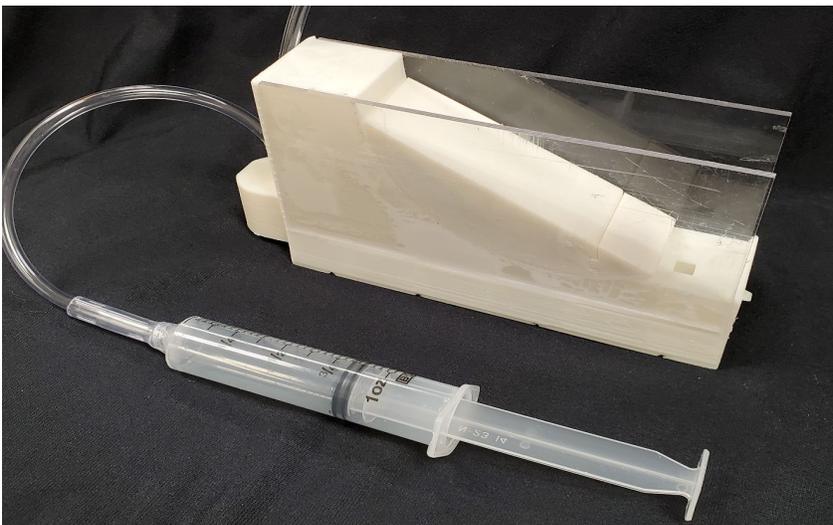
Source

Curtis, G. D., & Williams, J. W. (1978). Dynamic Demonstration Of Pore Pressure's Role In Slope Instability. *Journal of Geological Education*, 26(3), 111-113.
(<https://www.tandfonline.com/doi/abs/10.5408/0022-1368-26.3.111>)

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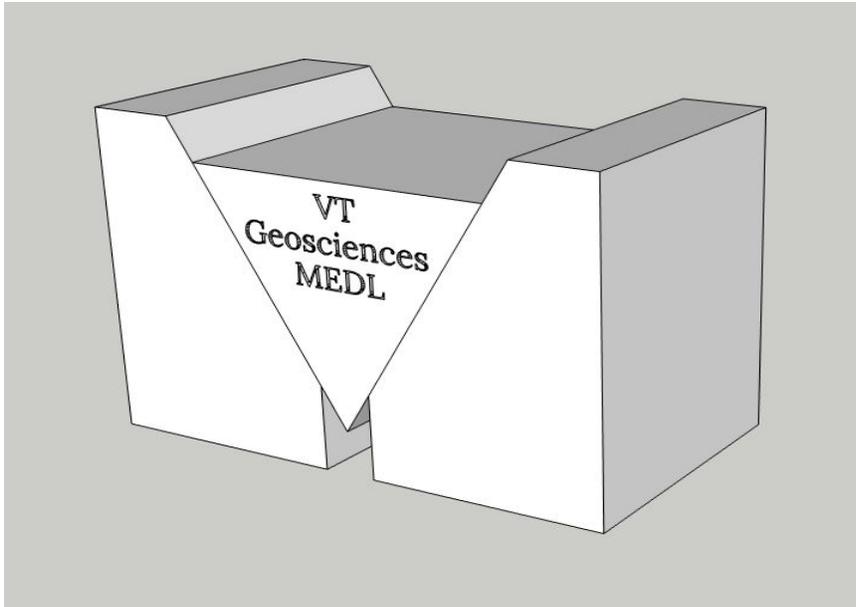
Graben Model

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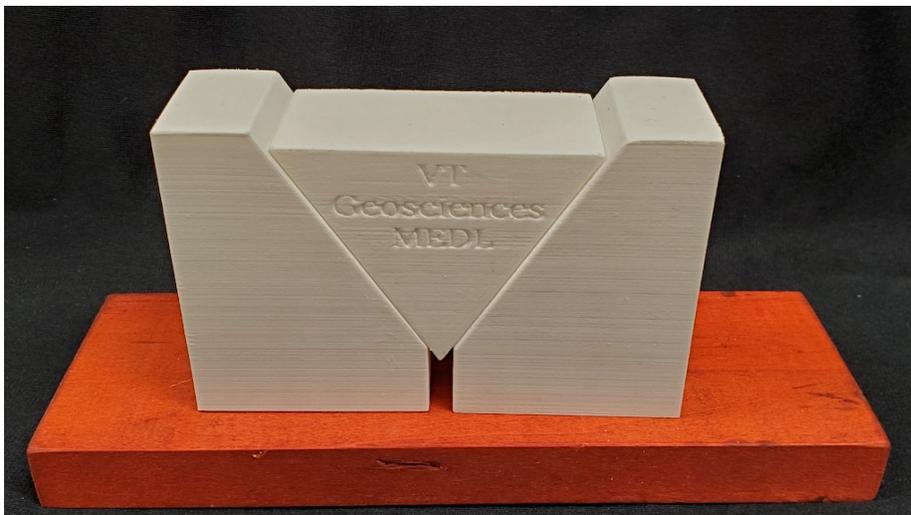
Chamberlin, Richard (2012) Classroom Activity: Using Block Models to Illustrate Crustal Extension in the Rio Grande Rift. *Lite Geology Spring*, New Mexico Bureau of Geology & Mineral Resources. Issue 31, p. 11-13.

(https://geoinfo.nmt.edu/publications/periodicals/litegeology/31/lg_v31.pdf).

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Spring-block Model

Source

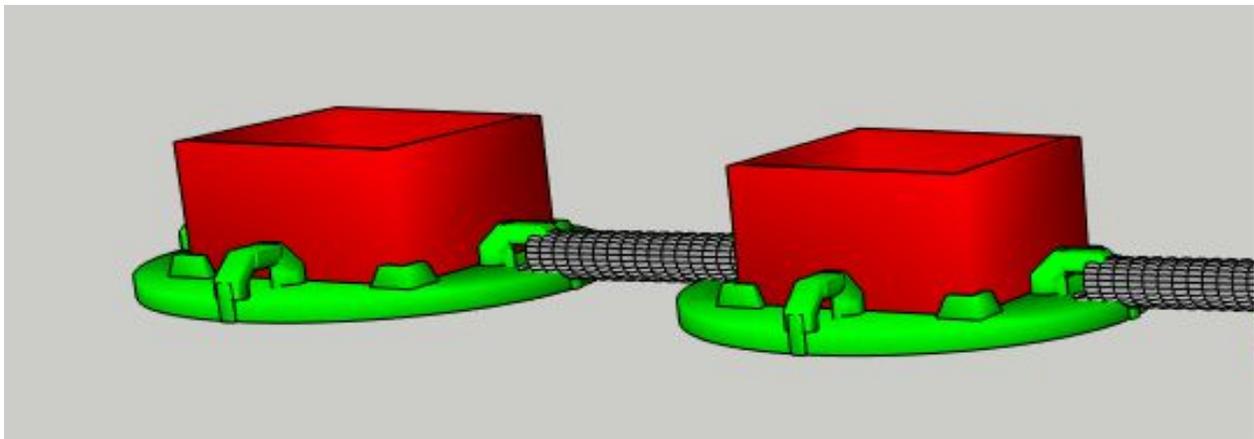
Burridge, R., & Knopoff, L. (1967). Model and theoretical seismicity. *Bulletin of the seismological society of america*, 57(3), 341-371.

(<https://pubs.geoscienceworld.org/ssa/bssa/article/57/3/341/116471/Model-and-theoretical-seismicity>)

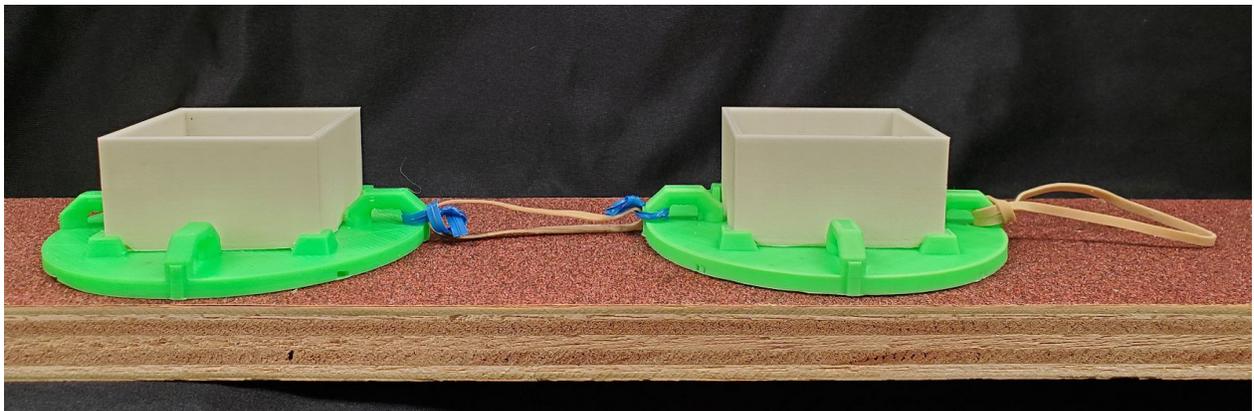
Linton, K., & Stein, R. S. (2012). QuakeCaster, an earthquake physics demonstration and exploration tool. *Seismological Research Letters*, 83(1), 150-155.

(<https://pubs.geoscienceworld.org/ssa/srl/article/83/1/150/144001>)

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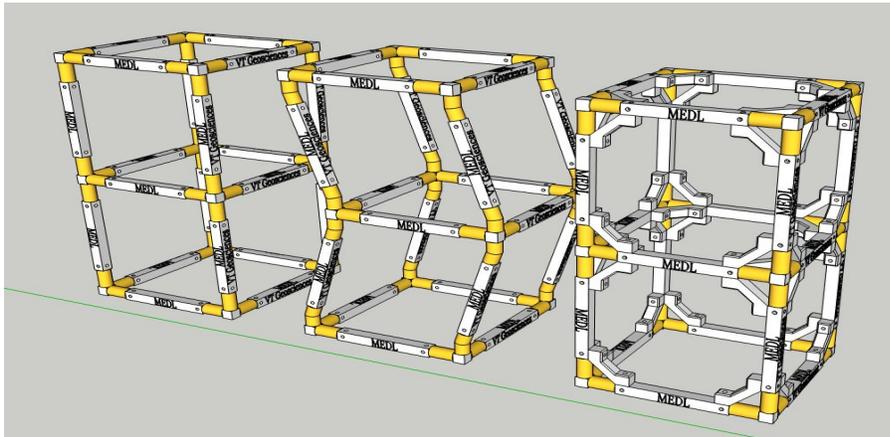
Quake Tower

Source

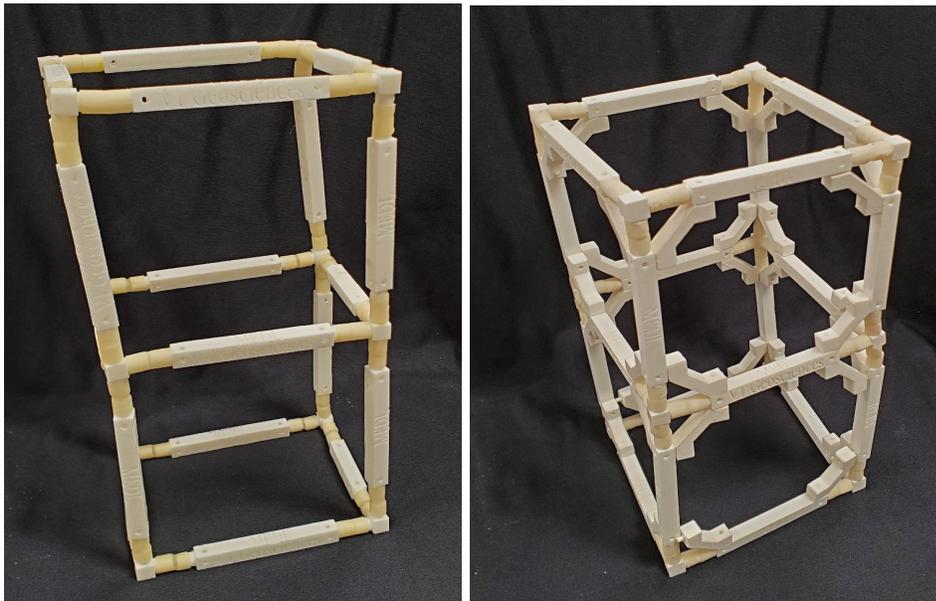
Willis, M. and Stein, R.S. (2014) Model Quake Towers: Construction and demo guidelines. U.S. Geological Survey.

<http://52.24.98.51/wp-content/uploads/2018/04/2014-Model-Quake-Towers-updated-opt.pdf>

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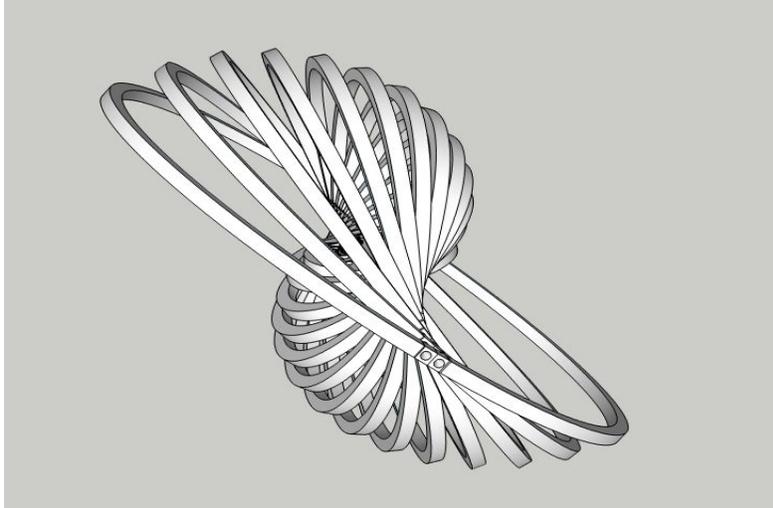
Rosenfeld's Ring Model

Source

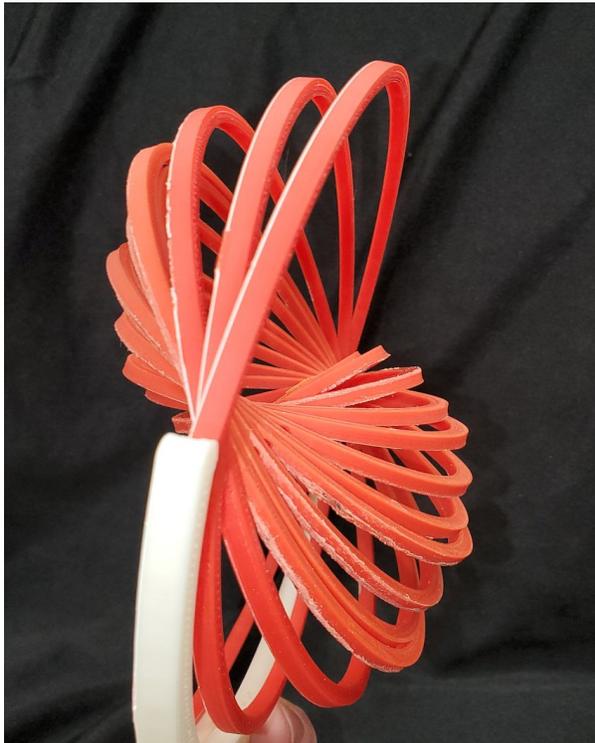
Rosenfeld, J. L. (1970). Rotated garnets in metamorphic rocks (Vol. 129). Geological Society of America.

(<https://pubs.geoscienceworld.org/books/book/250/Rotated-Garnets-in-Metamorphic-Rocks>)

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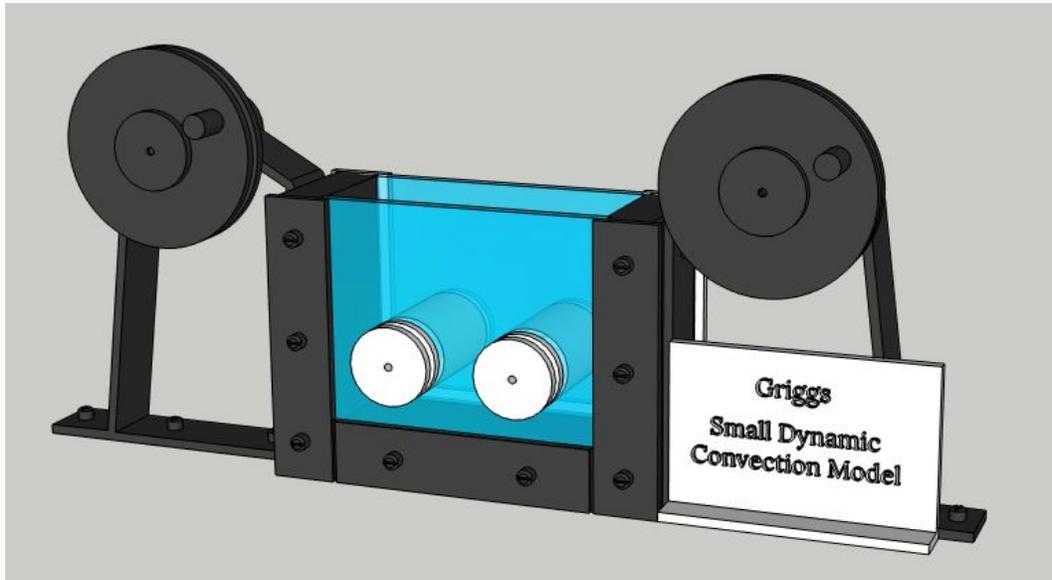


Griggs' Small Dynamic Convection Model

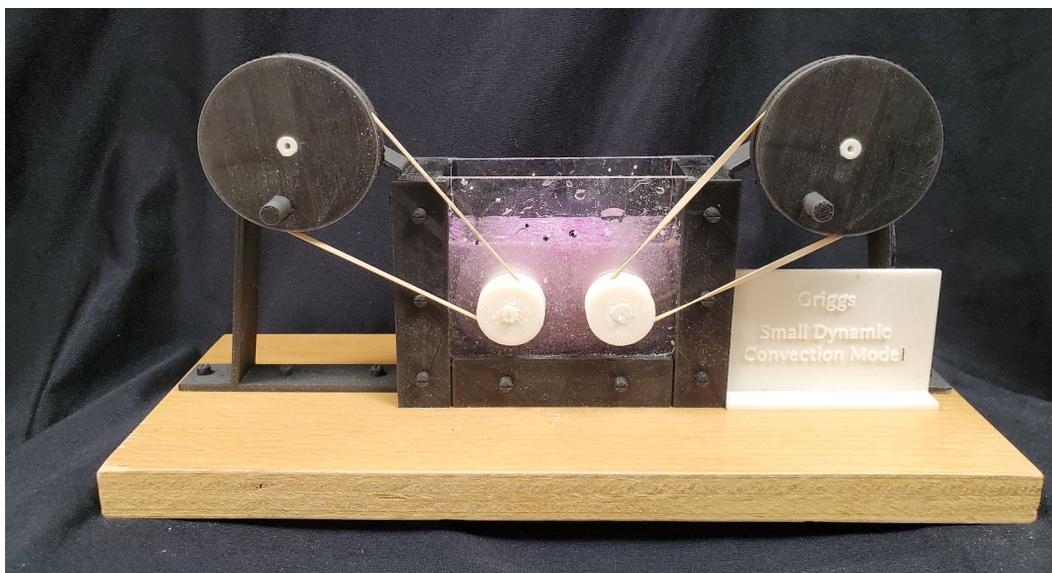
Source

Griggs, D. T. (1939). A theory of mountain-building. American Journal of Science, 237(9), 611-650. (<http://www.ajsonline.org/content/237/9/611.short>).

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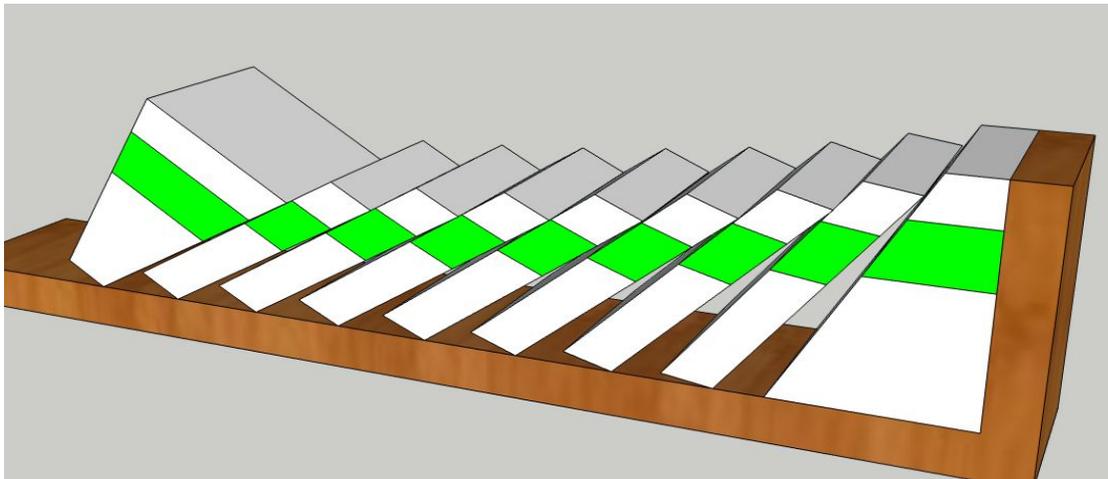
Domino Model

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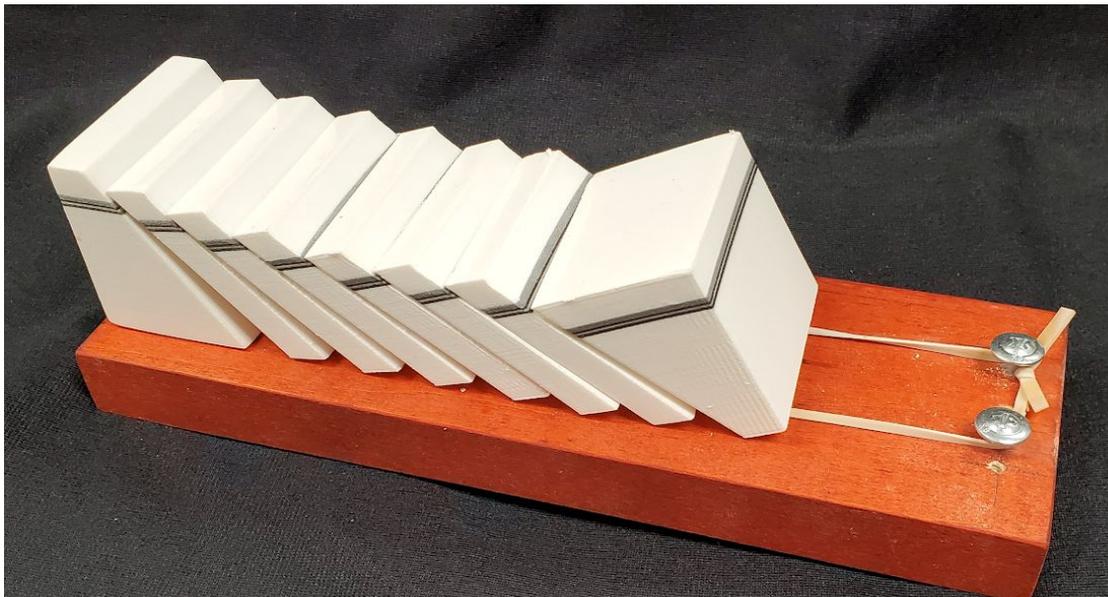
Chamberlin, Richard (2012) Classroom Activity: Using Block Models to Illustrate Crustal Extension in the Rio Grande Rift. *Lite Geology* Spring, New Mexico Bureau of Geology & Mineral Resources. Issue 31, p. 11-13.

(https://geoinfo.nmt.edu/publications/periodicals/litegeology/31/lg_v31.pdf).

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Find Out More

- For more information on these physical analog model re-makes, please visit <https://sites.google.com/vt.edu/geos-medl>.
- The downloadable .stl files for the remakes presented here can be found at <https://www.thingiverse.com/ANALOG/designs>.
- Glesener, G. B. (2019, December). Remaking Our Favorite Analog Models, Abstract ED43B-1096 presented at 2019 Fall Meeting, AGU, San Francisco, Calif., 11-15 Dec. <https://agu.confex.com/agu/fm19/meetingapp.cgi/Paper/590509>