Unit 07 GeoClips: River of Rocks and Permafrost

So why do hikers in Central Pennsylvania carry so many ace bandages? And the answer is that there's rocks on top of everything. All the trails in Central Pennsylvania are covered with rocks that are sitting up on a edge like this on top of the dirt. Why do the rocks get on top of the soil? And that story's sort of interesting. If you ever have a cat and you buy a bag of kitty litter, and you shake the bag and then you open it, you'll find the big pieces are on top.

You may find this in cereal boxes too that you'll get the big pieces floating to the top. And that's linked to a very simple geometric fact which is that little pieces can fall under big ones. And big ones cannot fall under little ones. If you want to find things like this that are happening today you won't find them here. These trees are not being rolled over by rocks that are moving. Our trees are perfectly happy here.

To find places where things like this are really moving today, you go to the top of Trail Ridge Road in Rocky Mountain National Park. You go to the North slope of Alaska. And there the ground is permanently frozen at some depth. And the rocks are slowly creeping down in the summer on top of that, lining up and turning up as the freezing and thawing move things around.

Here if you thaw the snow, it just soaks down through the rocks. It goes through the spaces. It goes down the river and it's fine. If it's frozen underneath, it can't soak down. And so you get soft mud that's full of water. It can't get rid of its water. It's sitting on top of slippery ice. What's it do? It slides downhill slowly. And so you go to the North slope of Alaska. You go to the top of Rocky Mountain. And all the hillsides are moving. And they're tipping the rocks up on edge and they're lining the rocks up in the direction they're going. And they're making things that look just like this without the trees. And so what we see here is a route of the Ice Age.