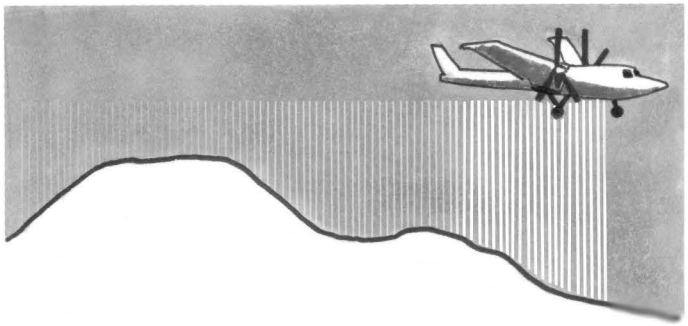
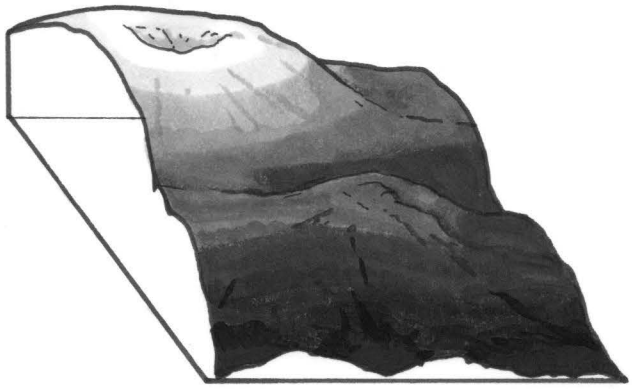
Activity 3

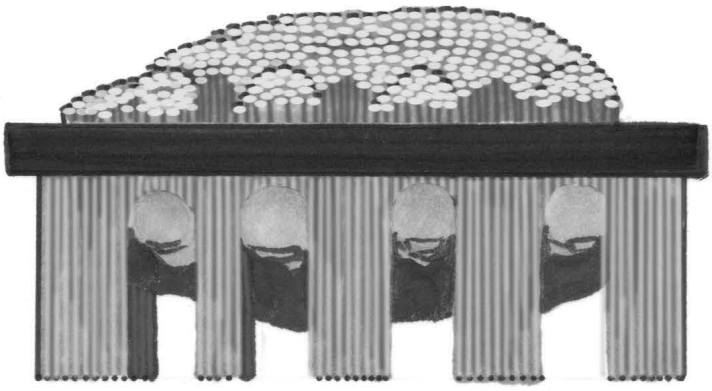
Pins and Pings

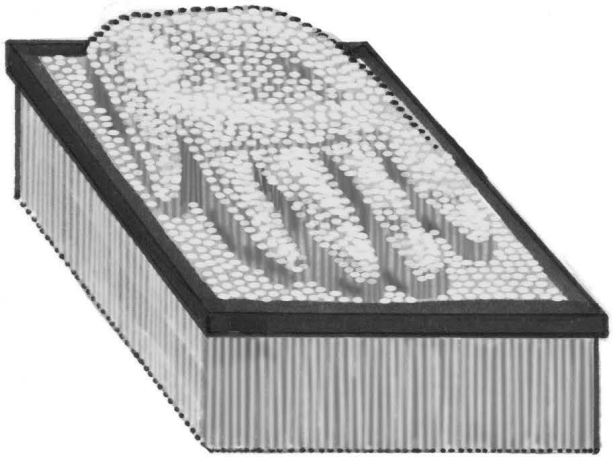
A LiDAR system measures topography, or the height of a landscape, using a laser pulse. It records the time it takes for a beam of light to travel to the ground and back, and converts that time into distance.





When all of those distances are placed together, they create a 3D image, similar to the way the pins on a pinscreen toy show the shape of the object underneath it.





Did You Know?
NASA uses lasers to collect many types of data. LiDAR can measure the height of landforms on planets, but lasers can also vaporize tiny bits of rocks from the Curiosity Rover on Mars to see what the rocks are made of.

Test Surface Elevation

Activity 3

Create a model LiDAR device that can map the topography of a surface. Keep this page open so other groups can see the data you collected.

Take a look at the data you collected using your model LiDAR device.

What shapes do you see in the pattern of the straws?

Test 1

After you *improve* your device, draw a new picture of the data you collected in the space to the right. What changed?

Test 2

Did You Know?
Scientists like to have others check their work. It's called "peer review" and they use it to avoid making mistakes in their conclusions.