

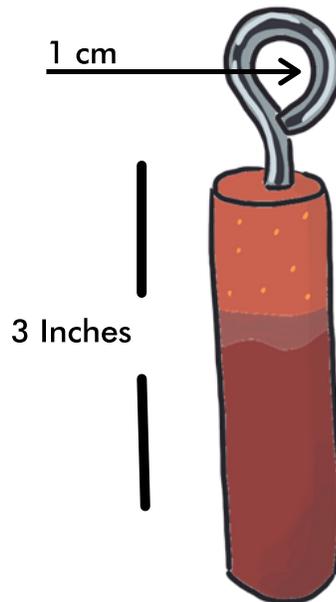


## Mars Core Sample: What is Mars made of?

They say that rocks can't talk, but if you look close enough, they can tell you so much! Every rock is a unique composition of minerals that can freeze time and tell us all about a planet's history. Earth and Mars have fairly similar compositions with rock and iron in their interiors. Core sampling is the process of drilling into rocks and examining the layers and materials inside. Since humans haven't been to Mars yet, we rely on robots like Mars rovers to collect rocks and soil, so that scientists can study them in the future.

Your mission will be to take a sample of Martian rock buried in the soil and bring it to a drop site for future pickup. Core samples have been pre-drilled and left in a patch of Martian dust with a hook sticking out that is 1 cm in diameter to retrieve them. You will search for samples and transport them to drop-off locations.

For this challenge, you're going to need to come up with some clever ways of grabbing a core sample loop and bringing it back to the drop site. Maybe you want to use one or two servos and create an arm that you can manipulate? Or perhaps you just want to attach a hook to a stationary part of your rover and simply drive over the sample and pull it away? It's up to you!



If you don't know much about the b.Board, or how to power it or plug anything in, take a minute to go through our great getting started guide before you go any further! Take some time to look at the sections on driving a motor and also controlling a servo to help you in your core sample quest!

NASA. (2021, February 25). Student Project: Explore Rocks Using Core Sampling. NASA. <https://www.jpl.nasa.gov/edu/learn/project/explore-rocks-using-core-sampling/>.

[Getting Started Guide](#)