



Light Intensity: How bright is it on Mars?

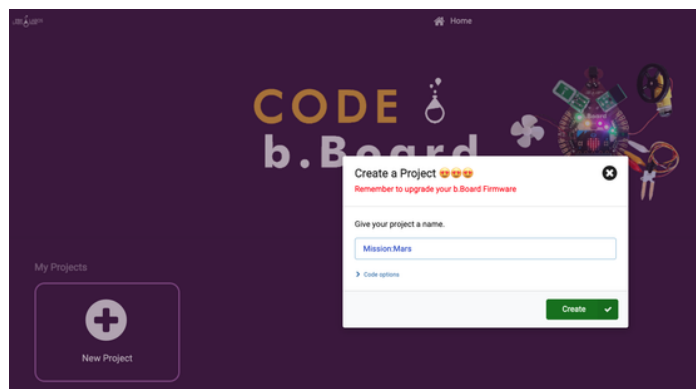
Did you know that Mars receives half the amount of light that Earth does? This is because Mars is farther away from the Sun than Earth. On Mars, the Sun also appears about two-thirds the size we would normally see on Earth.

It is important to capture the data on the amount of sunlight on Mars as it is vital for plants to grow through photosynthesis. Your mission will be to report back on the light intensity of Mars. Because light can change throughout the day, bonus points for reporting to min, max and average light levels throughout your time on Mars.

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

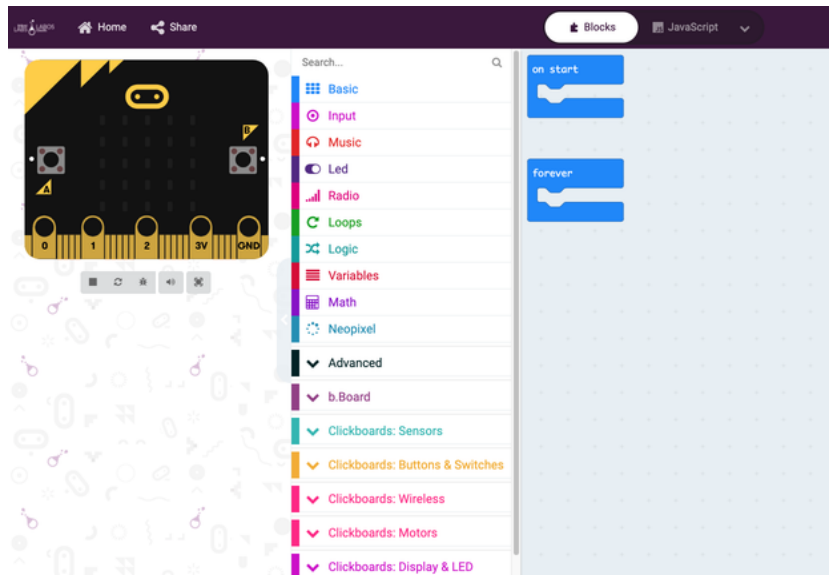
[Getting Started Guide](#)

Once you're ready to go, head on over to code.brilliantlabs.ca and start testing it out! Create a new project or open one that you've already created. In my case, I selected the new project + icon and gave it the name Mission: Mars.

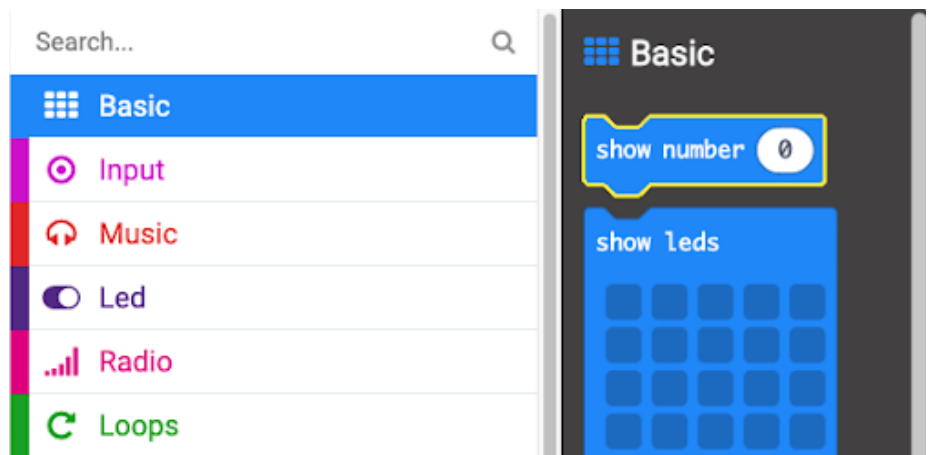


As soon as you select “create”, your new project will open. You should see something like this: →

On the left-hand side of the screen, you can see the toolbox. This is where we keep all of the blocks of code you need to control your micro:bit and b.Board. We will be using the light level which can be found under the inputs section of the toolbox.



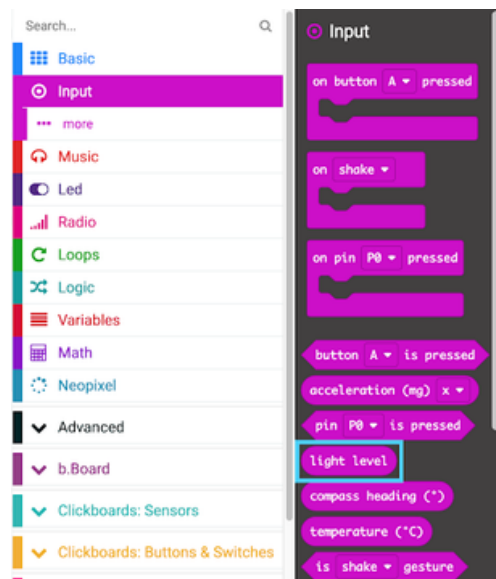
Let's experiment with light detection by displaying the light level shining on your rover on the micro:bit LED screen. To do that, grab the “show number” block as shown here:



Now drop it in your forever loop and grab the light level block under the inputs toolbox as shown on the right:

Drop that into your show number block inside your forever loop as shown on the left.

Download your code onto your micro:bit and observe how the value changes as you shine different amounts of light on it.



What next?

Continue to experiment with this idea. What value does it return when it is completely dark? What about when shining a bright light directly on it? For those of you interested in going even further, consider how you could track data throughout your entire time on Mars (your 10-minute window) and how you could calculate the min, max and average light levels. Once you've got it all sorted out, head on over to our WiFi guide to learn how you can connect your rover to our Brilliant Labs Cloud (cloud.brilliantlabs.ca) and get your rover ready to send your light intensity data from "Mars" back to "Earth". :)

Join the Mission: Mars Challenge!

Are you on track to complete your Mission: Mars Rover by early May? If so, Brilliant Labs welcomes you to visit or mail your rover to 1 of 5 in-person Provincial School Maker Faires or the Atlantic Virtual Mission: Mars Challenge (June 2nd). This is your chance to showcase your work and participate in up to 10 mission challenges. Each challenge, when completed successfully, will earn points and badges. The Mission: Mars student engineers with the most points will win the Mission: Mars Challenge Showcase!

Download, Register & Book Today!

Get the Mission: Mars Challenge Guide to learn more about what to expect and how the points will be awarded. Plus, don't forget to register and book your Mission Challenge(s) at Brilliantlabs.ca/innovation-challenge/missionmars (winners will be announced at the June 9th Atlantic Virtual School Maker Faire). Join the challenge and explore Maker Mars!

