Welcome to International NodeBots day 2015!

Your challenge is to build a NodeRover to explore the asteroid Pallas 2.

Here are some ideas for programming your bot:

- Display the temperature on the digit display
- Display the light reading on the digit display
- Use buttons to toggle what is displayed
- Beep when an obstacle is detected using the ultrasonic sensor
- Program your bot to drive around an area autonomously, using the ultrasonic sensor to avoid obstacles

Rover Build instructions:
https://t.co/x3l8m10ddU

Code samples:
https://gist.github.com/AnnaGerber/e5f8972b745e5f96da463

Pallas (2)

Physical characteristics	
Dimensions	582×556×500±18 km[6] 544 km (mean)[4]
Surface area	937000 km²[7]
Volume	84700000 km³[7]
Mass	(2.11±0.26)×10²⁰ kg[8]
Mean density	≈2.8 g/cm³[8]
Surface gravity	≈0.18 m/s² / .018*g*
Escape velocity	≈0.32 km/s
Rotation period	0.32555 d (7.8132 h)[9]
Equatorial rotation velocity	65 m/s[7]
Axial tilt	likely 78°±13° [10]
Albedo	0.159 (geometric)[11]
Temperature	≈164 K *max:* ≈265 K (−8 °C)
Spectral type	B-type asteroid[12][4]
Apparent magnitude	6.49[13] to 10.65
Absolute magnitude *(H)*	4.13[11]
Angular diameter	0.629″ to 0.171″[14]

From Wikipedia: https://en.wikipedia.org/wiki/2_Pallas

Pallas, minor-planet designation 2 Pallas, is the second asteroid to have been discovered (after Ceres), and it is one of the largest asteroids in the Solar System. It is estimated to comprise 7% of the mass of the asteroid belt, and its diameter of 544 kilometres (338 mi) is slightly larger than that of 4 Vesta. It is 10–30% less massive than Vesta, placing it third among the asteroids. It is likely a remnant protoplanet.

The Palladian surface appears to be a silicate material; the surface spectrum and estimated density resemble carbonaceous chondrite meteorites. The Palladian orbit, at 34.8°, is unusually highly inclined to the plane of the asteroid belt, and the orbital eccentricity is nearly as large as that of Pluto.

Pallas has unusual dynamic parameters for such a large body. Its orbit is highly inclined and somewhat eccentric, despite being at the same distance from the Sun as the central part of the asteroid belt. Furthermore, its axial tilt is very high. This means that, every Palladian summer and winter, large parts of the surface are in constant sunlight or constant darkness for a time on the order of an Earth year.