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

Here are some ideas for programming your bot:

Your challenge is to build a NodeRover to explore the asteroid Iris 7.

Welcome to International NodeBots day 2015!

Iris (7)

7 Iris is a large main-belt asteroid orbiting the Sun between Mars and Jupiter. It is the fourth brightest object in the asteroid belt. It is classified as an S-type asteroid, meaning that it has a stony composition.

Iris is an S-type asteroid. Its surface likely exhibits albedo differences, with possibly a large bright area in the northern hemisphere. Overall the surface is very bright and is probably a mixture nickel-iron metals and magnesium- and iron-silicates. Its spectrum is similar to that of L and LL chondrites with corrections for space weathering, so it may be an important contributor of these meteorites. Planetary dynamics also indicates that it should be a significant source of meteorites.

Iris's bright surface and small distance from the Sun make it the fourth brightest object in the asteroid belt after Vesta, Ceres, and Pallas.

Iris regularly comes within 0.4AU of Mars and will next do so on November 2, 2054.

Physical characteristics	
Dimensions	240×200×200 km[3] 225×190×190 km[4] 199.8 ± 10 km (IRAS)[5]
Surface area	135 000 km²[6]
Volume	4 630 000 km³[6]
Mass	1.62 ± 0.09 ×10¹⁹kg[3]
Mean density	3.21 ± 0.49 g/cm³[3]
Surface gravity	0.109 m/s²
Escape velocity	0.147 km/s
Rotation period	0.2975 d[7]
Equatorial rotation velocity	25.4 m/s[6]
Albedo	0.277 (geometric)
Temperature	~171 K max: 275 K (+2°C)
Spectral type	S-type asteroid
Apparent magnitude	6.7[8][9] to 11.4
Absolute magnitude (H)	5.51
Angular diameter	0.32" to 0.07"