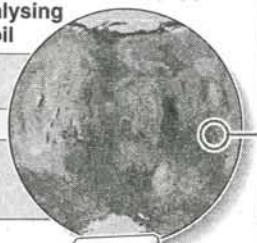
NASA to launch "dream machine" to Mars

NASA is to launch the most sophisticated robot vehicle ever built to explore Mars for signs of previous life. *Curiosity* – known formally as the *Mars Science Laboratory* – is a $2.5 billion state-of-the-art rover equipped with a tool kit for analysing Martian rocks and soil



Mission launch
Nov 25-Dec 18, 2011

Arrival: Aug 2012

Length: At least one Martian year (equal to 23 Earth months)



Landing site: 150km-wide ***Gale crater*** contains multiple geological layers

CURIOSITY ROVER
SUV-sized vehicle dwarfs NASA's last Mars rovers, ***Spirit*** and ***Opportunity***. Length 3m

Height 2.2m

Nuclear power source
4.8kg of plutonium dioxide. Generates electricity from heat of radioactive decay. Minimum lifetime 14 years

Navigation cameras

High-gain antenna

Mobility
Wheels 50cm diameter, each with its own motor. Rover can climb 45° slope. Top speed 4cm per second

ChemCam
Fires laser beam at small patch of rock. Vaporised material is analysed to identify composition

Robot arm
Extends 2.3m

Turret: Contains magnifying camera, element-identifying spectrometer and tools for gathering rock samples

Source / Picture: NASA

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