

NASA aims for high-impact return to the moon

The launch of two robotic probes, the *Lunar Reconnaissance Orbiter* (LRO) and the *Lunar CRater Observation and Sensing Satellite* (LCROSS) is the first step in NASA's plans to return humans to the moon by 2020

LRO Will spend up to five years in polar orbit to study lunar resources and identify future landing sites

LAUNCH VEHICLE
Atlas 5 rocket

Rocket
payload
fairing

LRO spacecraft

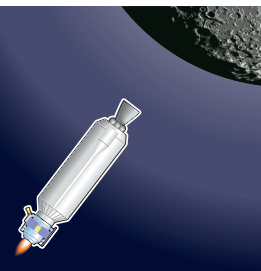
LCROSS
spacecraft

Centaur
upper
stage

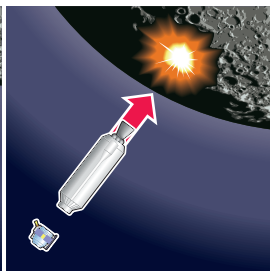
LRO/
LCROSS
separate
two hours
after launch

LCROSS

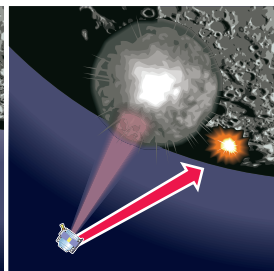
Aims to confirm if valuable water ice deposits exist in craters at moon's poles



1 After 86-day flight, LCROSS spacecraft manoeuvres to line up Centaur upper stage for impact with crater



2 Centaur separates and hits moon, creating huge plume of debris which can be studied for signs of lunar water



3 LCROSS records data before hitting moon and creating second debris plume for study by Earth and other spacecraft