
CURIOSITY LANDING SITE:
GALE CRATER

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00:00:00,000 --> 00:00:06,000
Music

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00:00:06,000 --> 00:00:10,000
Curiosity is not a life detection mission: we're not actually looking for life.

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00:00:10,000 --> 00:00:22,000
We don't have the ability to detect life if it was there. What we are looking for, is the ingredients of life.

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The Mars Science Laboratory takes this Curiosity Rover with this incredible set of payload instruments

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00:00:27,000 --> 00:00:31,000
to figure out if Mars ever could have supported microbial life.

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00:00:31,000 --> 00:00:39,000
By that we mean a place where micro organisms, little tiny single-cell organisms could have lived

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00:00:39,000 --> 00:00:47,000
and that requires a source of energy and water because all life as we know it is associated with water,

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00:00:47,000 --> 00:00:52,000
and then we also need a source of carbon.

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Curiosity is going to land at Gale crater. We're going to be climbing a mountain.

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In fact, one of the first things we'll see when we wake up the first day on Mars

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is this giant mountain in front of us just waiting for us a few miles away.

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00:01:03,000 --> 00:01:09,000
And in that mountain there's a stack of layers, and like turning the pages of a book we will explore

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00:01:09,000 --> 00:01:14,000

these layers and look at them in terms of whether or not they preserved evidence for ancient

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habitable environments. So you can think of Spirit and Opportunity as robotic geologists.

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Curiosity goes one step further; it's not only a robotic geologist, but a robotic geochemist.

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We need a bigger rover this time around because we've got ten science instruments

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and two of them fit inside of the belly of the rover.

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We bring some state-of-the-art laboratories to do very detailed geochemical

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analysis of the rocks and soils on Mars and the atmosphere as well.

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00:01:41,000 --> 00:01:44,000
We have to feed those instruments by getting samples of rock

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with a big robotic arm and a drill on the end of it.

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00:01:47,000 --> 00:01:52,000
And then we of course want to have all of our eyes and our other senses that we need with cameras

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and other detectors to monitor the weather and other things as well.

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The reason it's important to have this capability is, this brings us back to how we

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address the question in search for habitable environments again.

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We need to make those measurements in order to know that if life had evolved on