



## English 8: Reading: Module 3: Lesson 3: Section 2

Reading Comprehension of Informational Text

### Reading and Annotating Texts

**Instructions:** Read and annotate the two articles that follow. You can annotate them electronically using your computer's software, or you can download and print this PDF to annotate the articles by hand. When you're finished, return to the lesson.

#### The Call of Mars

by  
Buzz Aldrin

When I view the Moon, there are times when I feel like I'm on a time machine. I am back to a cherished point in the past — now nearly 45 years ago — when Neil Armstrong and I stood on that bleak, but magnificent lunar landscape called the Sea of Tranquility.

While we were farther away from Earth than humans had ever been, the fact is that we weren't alone. An estimated 600 million people back on Earth, at that time the largest television audience in history, watched us plant our footprints on the Moon.

Fast forward to today. Now I see the Moon in a far different light — not as a destination but more a point of departure, one that places humankind on a trajectory to homestead Mars and become a two-planet species.

It is time to lay the groundwork for effective global human exploration of space.

NASA's Apollo program adopted a get-there-in-a-hurry, straightforward space race strategy that left the former Soviet Union in the lunar dust. Doing so meant don't waste time developing reusability. Let's close that chapter in the space exploration history books.

I am calling for a unified international effort to explore and utilize the Moon, a partnership that involves commercial enterprise and other nations building upon Apollo. Let me emphasize: A second "race to the Moon" is a dead end. America should chart a course of being the leader of this international activity to develop the Moon. The United States can help other nations do things that they want to do, a fruitful avenue for U.S. foreign policy and diplomacy.

A step in the right direction is creating an International Lunar Development Corporation, customized to draw upon the legacy of lessons learned from such endeavors as the International Geophysical Year (whose purpose was to get scientists all over the world to focus on the physics and atmosphere of the Earth), the International Space Station program, as well as model organizations such as Intelsat and the European Space Agency. Space collaboration should be the new norm, including the tapping of talented Chinese, Indian and other space experts from around the globe.



Source: Aldrin Apollo 11 cropped, NASA, Wikimedia



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### Reading and Annotating Texts (continued, page 2)

In my view, U.S. resources are better spent on moving toward establishing a human presence on Mars. I envision a comprehensive plan that would lead to permanent human settlement on Mars in the next 25 years. To get under way, the International Space Station can serve as a test bed for long-duration life support and for technologies that can safely, reliably and routinely transport crews to the distant shores of Mars. I've championed the creation of spacecraft to be placed on continuous loops between Mars and Earth, thereby putting in place a pathway to sustainability that forever links the two planets.

Going to Mars means staying on Mars — a mission by which we are building up a confidence level to become a two-planet species. At Mars, we've been given a wonderful set of moons — one of which, perhaps Phobos, can act as an offshore world from which crews can robotically preposition hardware and establish radiation shielding on the Martian surface to begin sustaining increasing numbers of people. To succeed at Mars, you cannot stop with a one-shot foray to the surface.



Source: Daybreak at Gale Crater full, NAS/JPL-Caltech, Wikimedia

My passion for space exploration is guided by two principles: a continuously expanding human presence in space, and retention of U.S. leadership in space. To move forward, what's required is what I term as a Unified Space Vision for America that is predicated on exploration, science, development, commerce and security. To reach beyond low Earth orbit requires a suite of missions that are the foundation for such a Unified Space Vision. Putting in place and staying on track with this unified approach must begin now.

I call for an international effort to further explore and utilize the Moon. It would be a partnership that involves commercial enterprise and other nations building upon the Apollo legacy. But the real calling is Mars.

By implementing a step-by-step vision — just as the United States did with the single-seat Mercury capsule, followed by the two-person Gemini spacecraft that made Apollo possible — humankind can push outward to the distant dunes of Mars.

Our Earth isn't the only world for us anymore. It's time to seek out new frontiers.

*Buzz Aldrin, the second man to walk on the Moon, is the author, most recently, of "Mission to Mars: My Vision for Space Exploration," written with Leonard David.*



## The Homestead Project: Making a Mars Settlement a Reality

by  
Ker Than

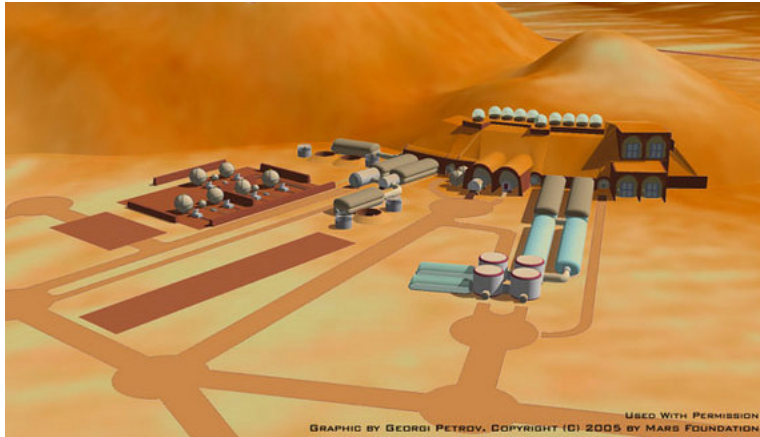


Image Credit: Mars Foundation

The Mars Foundation's hope for humanity's future on Mars is neatly summed up by their slogan: "To arrive, survive and thrive!" ~~ASA~~

At the International Conference on Environmental Systems (SAE-ICES) in Rome, the group presented plans for a permanent settlement they believe can be built using near-term technologies and resources already available on Mars.

The Mars Foundation is a non-profit organization made up of approximately 30 volunteer members, many of them scientists and engineers, and their effort is called the "Homestead Project."

According to the plans, the settlement will rely on a curious blend of old and new technology: it will be built with the aid of robots and run on nuclear energy, but will utilize materials and building techniques reminiscent of earlier centuries on earth.

One possible scenario, the group proposes is to send small gas tanks ahead that store methane and oxygen extracted from the atmosphere. When the settlers arrive, they can then use that equipment and stored gas to build things like steel production plants.

Finally, Mars will be an integral part of an inter-solar system economy that the group believes will develop within the next century, one based on the convergence of four frontiers: Earth, the Moon, asteroids, and Mars — including its own rocky satellites, Phobos and Deimos.

Many of the technologies developed for use on Mars will also have applications for the other frontiers . . . . Life support systems and mining equipment developed for use on Mars could also be used on the moon.

The group said . . . they are not trying to compete with NASA or any other space organization.



“We kind of look at NASA and the European Space Agency as analogous to Lewis and Clark in the old west,” Homnick said. “They blaze the trail, go out to explore and do the science. Well, we are analogous to the pioneers — we follow the trail that they blazed, and we make the new frontier home and we add value.”



Source: Terraforming of Mars, D Mirtiy, Wikimedia

“We hope they succeed because they’ll help us succeed,” said Palaia.

The settlement will be an oasis built for posterity, one the group believes future generations will come to regard as “a place of veneration and pilgrimage.”

With this in mind, the group’s settlement designs call for the planting of a First Tree. . . .

“That was very important to us,” said Palaia. “We wanted to have this in there as a symbol of bringing life to [Mars].”

Mackenzie and Homnick are both middle-aged and doubt they’ll be able to go to Mars themselves. But Palaila, 25, thinks he may have a chance.

Whether he’ll be able to remain on Mars permanently, however, is another matter.

“It’s a point of contention with my wife,” he said.