

AT HOME ON MARS

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Will humans someday live and work on Mars? Many scientists think so. In fact, they are already working on plans to turn Mars into a new Earth.

Humans need three basic things to live: water to drink, air to breathe, and food to eat. Because of the **lack** of these necessities, it isn't possible to live on Mars right now. For one thing, there is not enough oxygen. There is also no **liquid** water—just some ice. So how can we make Mars habitable?¹ The answer, scientists suggest, is a process called *terraforming*.

Terraforming means changing the **environment** of a planet so that it is similar to Earth's. On Mars, the **average** temperature is

about minus 60 degrees Celsius. So one goal of terraforming Mars is to warm it up. Most scientists agree that Earth is becoming warmer due to increased **levels** of greenhouse gases in our atmosphere. We might be able to create similar conditions on Mars.

One solution is to build factories on Mars that **release** greenhouse gases. The gases will change the Martian atmosphere, resulting in warmer temperatures. Mars's polar regions will begin to melt, releasing more carbon dioxide **trapped** inside the ice. Rain will eventually fall. It may then be possible to grow **plants** outdoors for food. The plants will add oxygen to the air, making human colonies on Mars a real possibility.

¹If a place is **habitable**, you can live there.



TURNING THE RED PLANET GREEN

1 FIRST VISITS

Terraforming Mars will probably be a thousand-year project, starting with several survey missions. The flight to Mars will take 6 months, but the entire mission might last more than 18 months.

2 HOMES ON MARS

Each new mission will build more habitation modules—places to live. These will allow future visitors to spend more time on Mars and learn more about living on the planet.

3 GLOBAL WARMING

Factories on Mars will release carbon dioxide into the atmosphere, warming the planet and allowing water to flow.

4 LIFE UNDER DOMES

Enormous domes will provide climate-controlled living spaces, first for plants and later for humans. It will take centuries to improve the rocky surface so that people can grow plants.

5 POWERING THE PLANET

Nuclear power² and wind turbines³ are two current technologies that we might be able to use on Mars.

6 DON'T FORGET YOUR MASK

Even 1,000 years from now, there may not be enough oxygen for humans to breathe, so people on Mars may still need to use special breathing equipment.

²Nuclear power comes from the energy that is released when the central parts of atoms are split or combined.

³Wind turbines are engines with blades. They produce power when wind spins the blades.

Task 3: Complete the following sentences with NO MORE THAN TWO WORDS from the reading on pages 112-113. Note the paragraphs where you find the information.

1. There is no _____ on Mars - just ice. (Paragraph ____)
2. Terraforming Mars means making it similar to _____. (Paragraph ____)
3. For many years, humans probably won't be able to _____ on Mars without special equipment. (Paragraph ____)
4. The flight to Mars will take _____ months. (Paragraph ____)
5. One way to warm up Mars is to build _____. These will release _____ gases into the air. (Paragraph ____)
6. Two technologies that exist now will probably give us power on Mars: _____ and _____.