

AT HOME ON MARS

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A 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.

B 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*.

C 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.

D 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

E 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

F 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

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

4 LIFE UNDER DOMES

H 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

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

6 DON'T FORGET YOUR MASK

J 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 _____.