Can There ever be life on Mars?

     Mars, the Red Planet, is the third smallest planet in our solar system and the closest planet to Earth. It is about 128 million miles away from Earth. By the way, ancient Romans named it Mars in honor of their god of war.

* The surface of Mars is contained in three regions: bright areas, dark areas, and polar caps. It also contains soil, which we will need later. The part that we need to talk about is the Polar Caps. Polar Caps are originally made from H₂O-water. Scientists argue that there is no water on Mars, and here it is. Due to the technology developing over the years, we can make heaters strong enough to melt water on Earth. So, the water problem is not even a problem, but it would take a lot of time and effort to do that. Here is how to melt it.
* Heater power: 1 GW (1,000,000,000 watts)
* The energy required to melt ice: approximately 334 J/g (the latent heat of fusion)
* The density of ice: approximately 0.92 g/cm³

Using these assumptions, we can estimate the total energy required to melt the ice:

30,000,000 km³ \* 0.92 g/cm³ \* 334 J/g ≈ 9.97 x 10^21 J

With a 1 GW heater:

Time = Total Energy / Power

= 9.97 x 10^21 J / 1,000,000,000 W

≈ 9.97 x 10^12 seconds

≈ 315,000 years

     The second challenge is O2-Oxygen; the gas we need to breathe. Mars's atmosphere contains 95.32% CO2- Carbon dioxide which is the gas plants need to make the process of photosynthesis. Now, we need soil to grow plants. Robots can carry seeds with them to plant them in the soil of Mars. So now we have plant needs. Sunlight is also available in Mars.

* Fun fact: Years to plant the whole area of Mars with apple trees = the average time for trees to grow multiplied by the number of trees used to plant the surface of Mars.

4,022,736,111,111 × 7 = 28,159,152,777,777

So, it would take about 28,159,152,777,777 years to plant the whole surface of Mars with apple trees. Now, we made food. But we aren't going to eat fruits and veggies only. We will need to bring two of each kind of animal, a male and a female, so they reproduce, but of course, after plants grow and reproduce oxygen.

 Now, let's sum it up. People can live on Mars but after a lot of years. If we start developing Mars in 2025, which is now, we can live on Mars in the year 28159152780117 or 28,159,152,780,117. This year is after 28,159,152,778,092 years to come. The operation of living on Mars is going to need armies of **robots, not humans.**This calculation about estimating years is more of a mathematical exercise, as our current understanding of time and calendars wouldn't apply at such enormous scales. The operation can only be solved by AI. The universe itself is estimated to be around 13.8 billion years old! Still, a mind-bogglingly large number!

Note: This text is an opinion by Dan Ahmed supported by a book.

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