

COULD
MICROBES
SURVIVE A TRIP
TO MARS?

1
00:00:01,424 --> 00:00:04,395
Could microbes survive a trip to Mars?

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00:00:08,230 --> 00:00:09,920
We Asked a NASA Scientist

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00:00:09,920 --> 00:00:15,600
Yes, it is possible for microorganisms to survive the
the journey from here to Mars and that's why we have

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00:00:15,600 --> 00:00:20,640
a program specifically dedicated to making sure
the spacecraft is clean before it leaves. We want

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00:00:20,640 --> 00:00:25,520
to ensure that if we detect life on Mars that
we are certain that it did not come from Earth.

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The journey to Mars includes the hard vacuum
of space, UV and ionizing radiation, and drastic

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temperature changes depending on if you're
facing the Sun or shielded away from it. These

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are conditions that most microbes on Earth could
not survive. One prominent type of microbe that

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could survive the journey are called bacteria
endospores which can form seed-like structures

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00:00:45,920 --> 00:00:50,640
that allow them to stay dormant until better
conditions arise. This superpower is why spore

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forming bacteria are given special focus when NASA cleans your spacecraft for Mars. Just to give you\h\h

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an idea the Mars 2020 mission, which includes the\h
Perseverance rover, carried 10 times less bacteria\h\h

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than what you'd find in a teaspoon of seawater.\h
So yes, it's possible for a microbe to survive the\h\h